



PANJAB UNIVERSITY, CHANDIGARH-160014 (INDIA)
(Estd. under the Panjab University Act VII of 1947—enacted by the Govt. of India)

SYLLABI

FOR

**B.A. & B.Sc. (GENERAL) FIRST YEAR
(SEMESTER SYSTEM)
EXAMINATIONS, 2023-24**

(SEMESTER : FIRST AND SECOND)

i.e

First Semester : *November/December, 2023*
Second Semester : *April/May, 2024*

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SCHEME FOR OPTING SUBJECTS
B.A./B.Sc. (GENERAL) FIRST YEAR (SEMESTER SYSTEM)
EXAMINATION, 2023-24

B.A. (General) 1st Year (Semester System) study programme consists of three compulsory subjects and three elective subjects :

Compulsory subjects :

- (a) Punjabi
OR
History & Culture of Punjab
- (b) English
- (c) Environment, Road Safety Education, Violence against Women/Children and Drug Abuse ***

Elective Subjects : A student is required to take up 3 elective subjects in all, selecting *not more than one subject* from any of the following sets of combinations. :

1. English, Hindi, Punjabi, ** Bengali, Urdu, Persian, ** Tamil, French,** Arabic, Russian, German, ** Kannada, ** Malayalam, ** Telugu.
2. Economics, Defence & Strategic Studies, Fine Arts, Education, Adult Education, History of Art.
3. History, Mathematics.
4. Public Administration, Home Science, Gandhian Studies, Philosophy.
5. Political Science, * Statistics, Applied Statistics; Indian Classical Dance, Human Rights and Duties.
6. Sanskrit, Physical Education, Ancient Indian History, Culture & Archaeology, Psychology, Geography.
7. Computer Science, Agriculture, Sociology.
8. Music (Instrumental), Women's Studies, Music (Tabla), Environment Conservation, Religious and Sikh Studies
9. Music (Vocal), Police Administration, Journalism & Mass Communication.

Note: *The students can opt. only two elective subjects from the following :*

Music (Instrumental), Music (Vocal), Music (Tabla) and Indian Classical Dance.

* Statistics can be opted only with Mathematics

** The Syllabus of Tamil, Telugu, Kannada, Malayalam, Arabic & Bengali Languages are **kept in abeyance**

*** This is a compulsory qualifying paper, which the students have to study in the B.A./B.Sc. 1st year (2nd Semester). If the student/s failed to qualify the paper during the 2nd Semester, he/she/they be allowed to appear/qualify the same in the 4th or 6th Semester/s.

| | | |
|-----|--|--|
| 10. | ** Elective Vocational Subject (one of the following) : | <i>Pre-requisite subject at +2 level</i> |
| 1. | Mass Communication –Video Production | Any |
| 2. | Functional English | English |
| 3. | Advertising, Sales Promotion & Sales Management | Any |
| 4. | Foreign Trade, Practices and Procedures | Preferably with Economics or Commerce |
| 5. | Office Management & Secretarial Practice | Any |
| 6. | Computer Applications | Preferably Computer |
| 7. | Functional Hindi | Hindi |
| 8. | Tax Procedures & Practices | Accountancy/Business Studies |
| 9. | Principles and Practice of Insurance | Any |
| 10. | Information Technology | Any |
| 11. | Fashion Designing | Any |
| 12. | Early Childhood Care & Education | Any |

****A student who opts for Computer Science as an Elective subject shall not take up Computer Applications/Information Technology as Elective Vocational subject and vice-versa.**

Note :- Syllabus for the Subject at Sr. No. 1 is not framed.

FOR B.SC. (GENERAL) CANDIDATES :

(Besides the compulsory subject, a student shall offer any three elective subjects)

| A | <i>Elective Vocational Subject</i> | <i>Other Two Elective Subjects</i> | <i>Pre-requisite subjects at +2 level</i> |
|--|---|------------------------------------|---|
| 1. | Clinical Nutrition Dietetics | Chemistry, Physics & Botany | PCB* |
| 2. | Bio-Technology | Chemistry, Botany or Zoology | PCB |
| 3. | Seed Technology | Botany, Chemistry | PCB |
| 4. | Industrial Fish & Fishery | Zoology, Chemistry | PCB |
| 5. | Instrumentation | Physics, Mathematics | PCM |
| 6. | Mass Communication Video Production | Any two Science Subjects | Any |
| 7. | Electronic Equipment Maintenance (Kept In Abeyance) | Physics, Chemistry/Maths. | PCM |
| 8. | Computer Applications | Any two Science Subjects | Preferably Computer |
| 9. | Industrial Chemistry | Chem., Maths./Botany/Zoology | PCM/B |
| 10. | Industrial Microbiology | Chemistry and Botany or Zoology | PCB |
| 11. | Food Science & Quality Control (Kept In Abeyance) | Chemistry and Botany/Zoology | PCB |
| 12. | Information Technology | Any | Any |
| B | | | |
| 13. | Bioinformatics, **Botany/Zoology*** and any one of the following : Mathematics/Physics/Chemistry/Computer Science | | PCM/PCB |
| 14. | Biotechnology, **Botany/Zoology*** and any one of the following : Mathematics/Physics/Chemistry/Computer Science | | PCM/PCB |
| 15. | Electronics : Physics + Electronics +Mathematics | : | PCM |
| OR | | | |
| Chemistry + Electronics + Computer Science | | | |
| 16. | 1. Agriculture, Botany & Zoology | : | PCB |
| | 2. Agriculture, Biotechnology, Botany/Zoology | : | PCB |
| | 3. Agriculture, Microbiology, Chemistry/Botany/Zoology | : | PCB |
| | 4. Agriculture, Chemistry, Physics/Botany/Zoology | : | PCB |

* P stands for Physics, C stands for Chemistry, B for Biology and M for Mathematics.

** B for Botany.

*** Z for Zoology

Note :- Syllabus for the Subject at Sr. No. 1, 3, 4, 5 and 6 are not framed.

Guidelines for continuous internal assessment (10%) for regular students of Under-Graduate courses (semester system):

Criteria for Internal Assessment:

| | | | |
|-------|---|---|----|
| (i) | Class test | = | 5% |
| (ii) | Academic Activities (Seminar, Project, Assignment) | = | 3% |
| (iii) | Attendance | = | 2% |

For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will be proportionately be increased to maximum marks of the paper in lieu of internal assessment.

PANJAB UNIVERSITY, CHANDIGARH
OUTLINES OF TESTS, SYLLABI AND COURSES OF READING IN VARIOUS SUBJECTS FOR
B.A./B.Sc. (GENERAL) FIRST YEAR (SEMESTER SYSTEM) i.e. FIRST SEMESTER
NOVEMBER/DECEMBER 2023 AND SECOND SEMESTER APRIL/MAY 2024, EXAMINATIONS.

ENGLISH (Compulsory)

SEMESTER – I

| | | |
|--------------------------|---|----------|
| Max. Marks | : | 50 |
| Theory | : | 45 marks |
| Internal Assessment | : | 05 marks |
| Time | : | 03 Hours |
| Teaching Hours per week: | | 04 |

Text Prescribed :

English at Work, (Selection from Poetry & Prose), Eds T. Vijay Kumar, B. T. Seetha, A. V. Suresh Kumar, Y. L. Srinivas, New Delhi: Macmillan India Ltd. 2012, revised edition.

Poems = 1-4

Prose Chapters = 1-4

Section-A

- Q.1. Reference to the Context from Poetry and Prose. *Two* out of *four* passages to be attempted. One each from Poetry and Prose. **05+05=10 marks**
- Q. 2. Questions from poetry in not more than 50-60 words. *Two* out of *five* to be attempted. **05 marks**
- Q.3 Essay type questions from Prose in not more than 100-120 words. *Two* out of *three* to be attempted. **06 marks**

Section B

- Q.4. Paragraph Writing (Descriptive and Narrative) *One* out of *three* to be attempted **05 marks**
- Q.5. Comprehension of passage from Prose text **05 marks**
- Q.6 Grammar - Voice, Determiners, Modals, Antonyms **10 marks**
- Q.7. Translation from Vernacular to English. *Four* out of *Six* sentences (only tense based) **04 marks**

OR

For foreign students Paragraph Writing on Proverbs in not more than 100 words.

ENGLISH (Compulsory)**SEMESTER – II**

| | | |
|--------------------------|---|----------|
| Max. Marks | : | 50 |
| Theory | : | 45 marks |
| Internal Assessment | : | 05 marks |
| Time | : | 03 Hours |
| Teaching Hours per week: | | 04 |

Text Prescribed :

English at Work (Selection from Poetry & Prose), Eds T. Vijay Kumar, B. T. Seetha, A. V. Suresh Kumar, Y. L. Srinivas, New Delhi: Macmillan India Ltd. 2012, revised edition.

Poems = 5-8

Prose Chapters = 5-8

Section-A

- Q.1. Reference to the Context from Poetry and Prose. *Two* out of *four* passages to be attempted. One each from Poetry and Prose. **05+05=10 marks**
- Q. 2. Questions from poetry in not more than 50-60 words. *Two* out of *five* to be attempted. **05 marks**
- Q.3 Essay type question from Prose in not more than 100-120 words. *Two* out of *three* to be attempted. **06 marks**

Section B

- Q.4. Letter Writing (Personal only) **05 marks**
- Q.5. Grammar : Narration, Preposition, Conjunctions, Synonyms **10 marks**
- Q.6 Comprehension of Unseen Passage **05 marks**
- Q.7. Translation from Hindi to English. *Four* out of *six* sentences (only idiom based) **04 marks**

OR

For foreign students Paragraph Writing on Proverbs in not more than 100 words.

ਪੰਜਾਬੀ (ਲਾਜਮੀ)
ਬੀ.ਏ. ਅਤੇ ਬੀ.ਐਸ.ਸੀ. ਭਾਗ ਪਹਿਲਾ ਦਸੰਬਰ 2023 ਦੇ ਇਮਤਿਹਾਨ ਲਈ
(ਬੀ.ਏ. ਅਤੇ ਬੀ.ਐਸ.ਸੀ. ਦੇ ਵਿਦਿਆਰਥੀਆਂ ਲਈ)
ਸਮੇਸਟਰ ਪਹਿਲਾ

ਕੁੱਲ ਅੰਕ: 50
 ਲਿਖਤੀ: 45
 ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ: 5
 ਸਮਾਂ: 3 ਘੰਟੇ

ਪਾਠਕ੍ਰਮ

- | | | |
|----|------------------------------|--------|
| 1. | ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਅਧਿਐਨ | 20 ਅੰਕ |
| 2. | ਲੇਖ ਰਚਨਾ | 10 ਅੰਕ |
| 3. | ਸੰਖੇਪ ਰਚਨਾ | 5 ਅੰਕ |
| 4. | ਵਿਆਕਰਨ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ | 10 ਅੰਕ |

ਕੋਰਸ

1. **ਕਾਵਿ-ਸੁਮੇਲ**, (ਸੰਪਾਦਕ) ਡਾ ਕਰਮਜੀਤ ਸਿੰਘ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ ।
 (ਹਰਭਜਨ ਸਿੰਘ ਹੁੰਦਲ ਅਤੇ ਹਰਭਜਨ ਸਿੰਘ ਰੈਣੂ ਸਿਲੇਬਸ ਵਿਚ ਨਹੀਂ ਹਨ)

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

1. (ੳ) ਕਾਵਿ-ਸੁਮੇਲ ਪੁਸਤਕ ਵਿਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਦੋ ਵਿਚੋਂ ਇਕ) 5 ਅੰਕ
 (ਅ) ਕਵਿਤਾ ਦਾ ਸਾਰ ਤੇ ਕੇਂਦਰੀ ਭਾਵ (ਦੋ ਵਿਚੋਂ ਇਕ) 5+5= 10 ਅੰਕ

2. ਕਾਵਿ-ਸੰਗ੍ਰਹਿ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਉੱਤਰ ਤਿੰਨ ਸਤਰਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) (ਅੱਠ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਪੰਜ ਦੇ ਉੱਤਰ ਦਿਓ) 5×1= 5 ਅੰਕ
 3. ਲੇਖ ਰਚਨਾ (500 ਸ਼ਬਦਾਂ ਵਿਚ) ਚਲੰਤ ਮਸਲਿਆਂ ਬਾਰੇ 10 ਅੰਕ
 (ਚਾਰ ਵਿਸ਼ਿਆਂ ਵਿਚੋਂ ਕੋਈ ਇਕ ਕਰਨਾ)
 4. ਸੰਖੇਪ ਰਚਨਾ 5 ਅੰਕ
 5. ਵਿਆਕਰਨ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ 6 ਅੰਕ

(i) ਵਿਆਕਰਨ : ਵਿਆਕਰਨ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਮਹੱਤਵ ਤੇ ਤੱਤ (ਵਾਕ ਪ੍ਰਬੰਧ, ਰੂਪ ਪ੍ਰਬੰਧ, ਧੁਨੀ ਪ੍ਰਬੰਧ ਤੇ ਲਿਖਤ ਪ੍ਰਬੰਧ (ਸੰਖੇਪ ਜਾਣ ਪਛਾਣ) (ਦੋ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨਾ ਹੈ)

(ii) ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ

ਨੋਟ : ਪੇਪਰ ਸੈਟਰ ਵਲੋਂ ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੇ ਹਵਾਲੇ ਨਾਲ ਹੀ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣ। (ਚਾਰ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨੇ ਹਨ)

2+2= 4 ਅੰਕ

- ਨੋਟ: 1. ਟੈਕਸਟ ਲਈ ਹਫ਼ਤੇ ਦੇ ਛੇ ਪੀਰੀਅਡ।
 2. ਕੰਪੋਜ਼ੀਸ਼ਨ ਲਈ 25-30 ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਗਰੁੱਪ ਅਤੇ ਹਫ਼ਤੇ ਦੇ ਤਿੰਨ ਹੋਰ ਪੀਰੀਅਡ।
 3. ਹਫ਼ਤੇ ਦੇ 6+3 = 9 ਪੀਰੀਅਡ।

ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)
ਬੀ.ਏ. ਅਤੇ ਬੀ.ਐਸ.ਸੀ ਭਾਗ ਪਹਿਲਾ ਅਪ੍ਰੈਲ/ਮਈ 2024 ਦੇ ਇਮਤਿਹਾਨ ਲਈ
(ਬੀ.ਏ. ਅਤੇ ਬੀ.ਐਸ.ਸੀ ਦੇ ਵਿਦਿਆਰਥੀਆਂ ਲਈ)
ਸਮੇਸਟਰ ਦੂਜਾ

ਕੁਲ ਅੰਕ: 50
ਲਿਖਤੀ ਅੰਕ: 45
ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ: 5
ਸਮਾਂ : 3 ਘੰਟੇ

ਪਾਠਕ੍ਰਮ

- | | | |
|----|--------------------------|--------|
| 1. | ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ ਦਾ ਅਧਿਐਨ | 20 ਅੰਕ |
| 2. | ਸੂਚਨਾ ਹਿਤ ਨੋਟਿਸ | 10 ਅੰਕ |
| 3. | ਮੁਹਾਵਰੇ | 5 ਅੰਕ |
| 4. | ਵਿਆਕਰਨ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ | 10 ਅੰਕ |

ਕੋਰਸ

- | | | |
|----------------------|---|-------------|
| 1. | ਕਥਾ ਕਹਾਣੀ. (ਸੰਪਾਦਕ) ਡਾ ਧਨਵੰਤ ਕੌਰ, ਪਬਲਿਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ | |
| ਯੂਨਿਟ ਅਤੇ ਥੀਮ | | |
| 1. | (ੳ) 'ਕਥਾ ਕਹਾਣੀ' ਪੁਸਤਕ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਕਹਾਣੀ ਦਾ ਵਿਸ਼ਾ ਦੱਸ ਕੇ ਸਾਰ ਲਿਖਣਾ (ਤਿੰਨ ਵਿਚੋਂ ਇਕ) | 4+6= 10 ਅੰਕ |
| | (ਅ) ਕਹਾਣੀ-ਸੰਗ੍ਰਹਿ ਵਿਚ ਸੰਮਲਿਤ ਕਹਾਣੀਆਂ ਵਿਚੋਂ ਪਾਤਰ ਚਿਤਰਣ ਕਰਨਾ (ਤਿੰਨ ਵਿਚੋਂ ਇਕ) | 5 ਅੰਕ |
| 2. | ਕਹਾਣੀ-ਸੰਗ੍ਰਹਿ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਉੱਤਰ ਤਿੰਨ ਸਤਰਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ।) (ਅੱਠ ਵਿਚੋਂ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ) | 5×1= 5 ਅੰਕ |
| 3 | ਸੂਚਨਾ ਹਿਤ ਨੋਟਿਸ ਲਿਖਣਾ (ਸਾਹਿਤਕ, ਸੱਭਿਆਚਾਰਕ ਤੇ ਖੇਡ ਖੇਤਰ ਨਾਲ ਸੰਬੰਧਤ) | 10 ਅੰਕ |
| 4 | ਮੁਹਾਵਰੇ : ਅਰਥ ਦਸ ਕੇ ਵਾਕ ਬਣਾਉਣੇ (ਸੱਤ ਵਿਚੋਂ ਕੋਈ ਪੰਜ ਕਰਨੇ) | 5 ਅੰਕ |
| 5 | ਵਿਆਕਰਨ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ | 6 ਅੰਕ |
| | (i) ਧੁਨੀ ਤੇ ਧੁਨੀ ਗ੍ਰਾਮ : ਧੁਨੀ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਖੰਡੀ ਤੇ ਅਖੰਡੀ ਧੁਨੀਆਂ (ਸੰਖੇਪ ਜਾਣ ਪਛਾਣ) ਪੰਜਾਬੀ ਸਵਰ ਧੁਨੀਆਂ ਤੇ ਵਿਅੰਜਨ ਧੁਨੀਆਂ : ਪਰਿਭਾਸ਼ਾ ਤੇ ਵਰਗੀਕਰਨ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ) | |
| | (ii) ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਨੋਟ : ਪੇਪਰ ਸੈਟਰ ਵਲੋਂ ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੇ ਹਵਾਲੇ ਨਾਲ ਹੀ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣ। (ਚਾਰ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨੇ ਹਨ) | 2+2= 4 ਅੰਕ |

ਸਹਾਇਕ ਪੁਸਤਕਾਂ :

1. ਪੰਜਾਬੀ ਸੰਚਾਰ ਯੋਗਤਾ ਅਭਿਆਸ, ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ।
 2. ਅਗਨੀਹੋਤਰੀ, ਵੇਦ, ਪਰਿਚਾਇਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਦੀਪਕ ਪਬਲਿਸ਼ਰਜ਼, ਜਲੰਧਰ, 1981.
 3. ਸੁਖਵਿੰਦਰ ਸਿੰਘ ਸੰਘਾ ਅਤੇ ਹੋਰ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਭਾਗ-ਪਹਿਲਾ, ਦੂਜਾ ਤੇ ਤੀਜਾ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ, ਜਲੰਧਰ, 1997.
 4. ਹਰਕੀਰਤ ਸਿੰਘ (ਡਾ.), ਕਾਲਜ ਪੰਜਾਬੀ ਵਿਆਕਰਨ , ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ, 1999
 5. ਧਾਲੀਵਾਲ, ਪ੍ਰੇਮ ਪ੍ਰਕਾਸ਼ ਸਿੰਘ (ਡਾ.) 'ਸਿਧਾਂਤਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ' , ਮਦਾਨ ਪਬਲਿਕੇਸ਼ਨਜ਼, ਪਟਿਆਲਾ, 2002.
 6. ਬਰਾੜ, ਬੂਟਾ ਸਿੰਘ (ਡਾ.), ਪੰਜਾਬੀ ਵਿਆਕਰਨ, ਸਿਧਾਂਤ ਅਤੇ ਵਿਹਾਰ , ਚੇਤਨਾ ਪ੍ਰਕਾਸ਼ਨ ਲੁਧਿਆਣਾ, 2008.
 7. ਜੌਸਲ ਕਵਲਜੀਤ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੇ ਕੁਝ ਪੱਖ , ਰਵੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ, ਹਾਲ ਬਾਜ਼ਾਰ, ਅੰਮ੍ਰਿਤਸਰ, 2012.
 8. ਮਨਜੀਤ ਕੌਰ, **ਪੰਜਾਬੀ ਭਾਸ਼ਾ : ਵਰਤੋਂ ਤੇ ਬਣਤਰ**, ਲੋਕਗੀਤ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ੍ਹ।
- ਨੋਟ: 1. ਟੈਕਸਟ ਲਈ ਹਫ਼ਤੇ ਦੇ ਛੇ ਪੀਰੀਅਡ।
2. ਕੰਪੋਜ਼ੀਸ਼ਨ ਲਈ 25-30 ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਗਰੁੱਪ ਅਤੇ ਹਫ਼ਤੇ ਦੇ ਤਿੰਨ ਹੋਰ ਪੀਰੀਅਡ।
3. ਹਫ਼ਤੇ ਦੇ 6+3= 9 ਪੀਰੀਅਡ ।

HISTORY AND CULTURE OF PUNJAB**(For B.A. Only)****B.A. (General) SEMESTER –I EXAMINATION, 2023-24****PAPER: HISTORY AND CULTURE OF PUNJAB FROM THE EARLIEST TIMES TO PRE-MAURYAN PERIOD****Objectives:** To introduce the students to the history of the early history of the region.**Pedagogy:** Lectures, library work and discussions.**INSTRUCTIONS FOR THE PAPER –SETTER AND CANDIDATES: (FOR PAPER in semester 1 AND 2)**

- The syllabus has been divided into four Units.
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each Unit and 4 questions in all. Each question will carry 18 marks.
- For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
The paper-setter must put note (2) in the question paper.
- One question from Unit-IV shall be set on the map.**

Explanation:

- Each essay type question would cover about one-third or one-half of a topic detailed in the syllabus.
- The distribution of marks for the map question would be as under:
Map : 6 Marks
Explanatory Note : 4 Marks

In case a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 06 places on map of 01 marks each and write explanatory note on any 02 of 02 marks each.

- The paper-setter would avoid repetition between different types of question within one question paper.

| | | | |
|---------------|---------------------|---|---------|
| Paper: | Max. Marks | : | 50 |
| | Theory | : | 45 |
| | Internal Assessment | : | 05 |
| | Time | : | 3 Hours |

UNIT I

Ancient Punjab: Physical features; impact on History
Historical Sources: Literary; archaeological
Harappan Culture: Extent and town planning.

UNIT II

Harappan Culture: Social, Economic and Religious life; causes of disappearance
 Rig Vedic Age: The rise of Indo Aryans; main features of the life in early Vedic Age.
 Later Vedic Age: Political, Social, Economic and Religious life of later Vedic Aryans.

UNIT III

Caste System: Origin and evolution.
 The Epics: Historical importance of Ramayan and Mahabharat.
 Political Condition on eve Alexander's invasion

UNIT IV

Impact of Alexander's invasion on social and cultural life.
 Position of women: Harappan, early Vedic and later Vedic Age

Map:

Important Historical places of Punjab: Mohenjodaro, Harappa, KotlaNihang Khan, Sanghol, Banawali, Taxila, Indraprastha, Hastinapur, Kurukshetra, Srinagar, Purusapura, Sakala.

Specimen Map for Examination:**Suggested Readings:**

1. Joshi, L.M (ed.) :History and Culture of the Punjab, Part-I, Publication Bureau, Punjabi University, Patiala, 1989 (3rd edn.)
2. Joshi, L.M and Fauja Singh,(eds) : History and Culture of the Punjab, Vol. I, Punjabi University, Patiala, 1977
3. Prakash, Buddha : Glimpses of Ancient Punjab, Punjabi University, Patiala, 1983
4. Thapar, Romila : A History of India, Vol. I, Penguin Books, 1966
5. Basham, A.L : The Wonder That was India, Rupa Books, Calcutta (18th rep.),1992
6. Sharma, B.N : Life in Northern India, MunshiRamManoharLal, Delhi, 1966

Note : The following categories of the students shall be entitled to take option of History & Culture of Punjab in lieu of Punjabi as compulsory subject :

- (a) That the students have not studied Punjabi upto class 10th.
- (b) Ward of/and Defence Personnel and Central Government Employee/Employees who are transferable on all India basis.
- (c) Foreigners.

HISTORY AND CULTURE OF PUNJAB**(For B.A. Only)****B.A. (General) SEMESTER-II EXAMINATION, 2023-24****PAPER: HISTORY AND CULTURE OF PUNJAB FROM MAURYAN TIMES TO 1200 A.D.****Objectives:** To introduce the students to the history of the early history of the region.**Pedagogy:** Lectures, library work and discussions.**INSTRUCTIONS FOR THE PAPER –SETTER AND CANDIDATES: (FOR PAPER in semester 1 AND 2)**

- The syllabus has been divided into four Units.
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 10 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 5 short answer type questions carrying 5 marks i.e. 1 marks for each. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each Unit-IV in all. Each question will carry 10 marks.
- For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
The paper-setter must put note (2) in the question paper.
- One question from Unit-IV shall be set on the map.**

Explanation:

- Each essay type question would cover about one-third or one-half of a topic detailed in the syllabus.
- The distribution of marks for the map question would be as under:
Map : 6 Marks
Explanatory Note : 4 Marks
- In case a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 06 places on map of 01 marks each and write explanatory note on any 02 of 02 marks each.
- The paper-setter would avoid repetition between different types of question within one question paper.

| | | | |
|---------------|---------------------|---|---------|
| Paper: | Max. Marks | : | 50 |
| | Theory | : | 45 |
| | Internal Assessment | : | 05 |
| | Time | : | 3 Hours |

UNIT I

The Mauryan Empire: Social, economic and religious life

Buddhism and Jainism: Impact on Punjab with special reference to 4th Buddhist Council.

The Kushanas: Impact of Kanishka's rule on Punjab

UNIT II

Gandhara School of Art: Salient features.
 The Guptas: Cultural and scientific developments.
 Position of Women: Under the Mauryas, the Guptas and the Vardhanas.

UNIT III

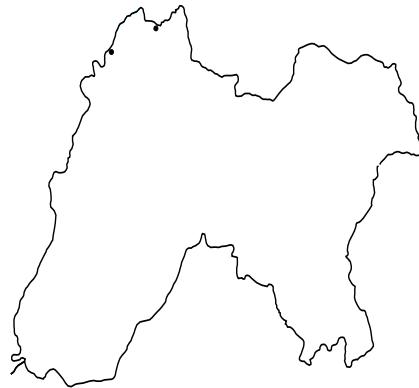
Depiction of Punjab in the accounts of Chinese travelers.Fahien and Hwen Tsang:
 Main developments in literature.
 Education: Significant developments; Taxila

UNIT IV

Society and Culture on the eve of the Turkish invasion of Punjab
 Punjab in the Kitab-ul-Hind of Alberuni .

Map:

Important Historical Places: Lahore, Multan Bathinda, Uchh, Jalandhar, Thanesar, Kangra, Taxila, Kundalvana, Pehowa, Thatta.

Specimen Map for Examination:

Map for Practice

Suggested Readings:

- | | |
|------------------------------------|---|
| 1.Joshi, L.M (ed.) | : History and Culture of the Punjab, Part-I, Publication Bureau, Punjabi University, Patiala, 1989 (3 rd edn.) |
| 2.Joshi, L.M and Fauja Singh(eds), | : History and Culture of the Punjab, Vol. I, Punjabi University, Patiala, 1977 |
| 3.Prakash, Buddha | : Glimpses of Ancient Punjab, Punjabi University, Patiala, 1983 |
| 4.Thapar, Romila | : A History of India, Vol. I, Penguin Books, 1966 |
| 5.Basham, A.L | : The Wonder That was India, Rupa Books, Calcutta (18 th rep.),1992 |
| 6.Sharma, B.N | : Life in Northern India, MunshiRamManoharLal, Delhi, 1966 |

Note : The following categories of the students shall be entitled to take the option of History & Culture of Punjab in lieu of Punjabi as compulsory subject :

- (a) That the students have not studied Punjabi upto class 10th.
- (b) Ward of/and Defence Personnel and Central Government employee/employees who are transferable on all India basis.
- (c) Foreigners.

HISTORY AND CULTURE OF PUNJAB
(All Candidates other than B.A.)
SEMESTER I

HISTORY AND CULTURE OF PUNJAB FROM THE EARLIEST TIMES TO 1849
INSTRUCTIONS FOR THE PAPER –SETTER AND CANDIDATES: (FOR PAPER in semester 1 AND 2)

1. The syllabus has been divided into four Units.
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 10 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 5 short answer type questions. Each question will carry 1 mark. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each unit –IV in all. Each question will carry 10 marks.
2. For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
The paper-setter must put note (2) in the question paper.
3. One question from Unit-IV shall be set on the map.

Explanation:

4. Each essay type question would cover about one-third or one-half of a topic detailed in the syllabus.
5. The distribution of marks for the map question would be as under:
Map : 6 Marks
Explanatory Note: 4 Marks

In case a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 6 places on map of 1 marks each and write explanatory note on any two of 2 marks each.

6. The paper-setter would avoid repetition between different types of question within one question paper.

PAPER: HISTORY AND CULTURE OF PUNJAB FROM THE EARLIEST TIMES TO 1849

| | | |
|---------------------|---|---------|
| Max. Marks | : | 50 |
| Theory | : | 45 |
| Internal Assessment | : | 05 |
| Time | : | 3 Hours |

- Objectives:** To introduce the students to the history of Punjab region.
Pedagogy: Lectures, library work and discussions.

UNIT I

1. Harappan Civilization: extent and town planning and socio-economic life.
2. Life in Vedic Age: socio-economic and religious;
3. Growth and impact of Jainism and Buddhism in Panjab.

UNIT II

4. Society and Culture under Maurayas and Guptas.
5. Bhakti movement: Main features; prominent saints and their contribution.
6. Origin and development of Sufism.

UNIT III

7. Evolution of Sikhism: teaching of Guru Nanak; Institutional Development- Manji, Masand, Sangat and Pangat
8. Transformation of Sikhism: Martyrdom of Guru Arjan; New policy of Guru Hargobind, martyrdom of Guru Tegh Bahadur.
9. Institution of Khalsa: New baptism; significance

UNIT IV

10. Changes in Society in 18th century: social unrest; emergence of misls and other institutions - rakhi, gurmata, dal khalsa.
11. Society and Culture under Maharaja Ranjit Singh.
12. MAP (of undivided physical geographical map of Punjab):
Major Historical Places: Harappa, Mohenjodaro, Sanghol, Ropar, Lahore, Amritsar, Kiratpur, Anandpur Sahib, Tarn Taran, Machhiwara, Goindwal, Khadur Sahib.

Suggested Readings:

1. Joshi, L.M (ed.) : History and Culture of the Punjab, Part-I, Publication Bureau, Punjabi University, Patiala, 1989 (3rd edn.)
2. Joshi, L.M and Singh, Fauja (ed.) : History and Culture of the Punjab, Vol. I, Punjabi University, Patiala, 1977
3. Prakash, Buddha : Glimpses of Ancient Punjab, P.U., Patiala, 1983
4. Thapar, Romila : A History of India, Vol. I, Penguin Books, 1966
5. Basham, A.L : The Wonder That was India, Rupa Books, Calcutta (18th rep.),1992
6. Sharma, B.N : Life in Northern India, Munshi Ram Manohar Lal, Delhi, 1966
7. Singh,Kirpal : History and Culture of the Punjab, Part II(Medieval Period), Publication Bureau, Punjabi University, Patiala 1990(3rd edn.).
8. Singh, Fauja(ed.) : History of the Punjab, Vol.III, Punjabi University, Patiala 1972.
9. Grewal, J.S. : The Sikhs of the Punjab, the New Cambridge History of India, Orient Longman, Hyderabad,1990.
10. Singh, Khuwant : A History of the Sikhs, vol I: 1469-1839, oxford University Press,. Delhi, 1991.

11. Chopra, P.N.,Puri, B.N. : A Social, Cultural and Economic History of India, Vol.II, Macmillan, Delhi
And Das,M.N. 1974.
12. Hussain ,Yusuf : Glimpse of Medieval Indian Culture, Asia Publishing House, Bombay,
1973(rep.).

Note: The following categories of the students shall be entitled to take option of History & Culture of Punjab in lieu of Punjabi as compulsory subject:

- A. That the students who have not studied Punjabi upto class 10th.
- B. Ward of/and Defence Personnel and Central Govt. Employee/Employees who are transferrable on all India basis.
- C. Foreigners

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HISTORY AND CULTURE OF PUNJAB
(All Candidates other than B.A.)
SEMESTER II

HISTORY AND CULTURE OF PUNJAB IN THE COLONIAL AND POST INDEPENDENCE TIMES

INSTRUCTIONS FOR THE PAPER –SETTER AND CANDIDATES: (FOR PAPER in semester 1 AND 2)

1. The syllabus has been divided into four Units.
 There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 10 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 5 short answer type questions. Each question will carry 1 mark. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each unit –IV in all. Each question will carry 10 marks.
2. For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
The paper-setter must put note (2) in the question paper.
3. One question from Unit-IV shall be set on the map.

Explanation:

1. Each essay type question would cover about one-third or one-half of a topic detailed in the syllabus.
2. The distribution of marks for the map question would be as under:
 Map : 6 Marks
 Explanatory Note: 4 Marks

In case a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 6 places on map of 1 marks each and write explanatory note on any two of 2 marks each.

3. The paper-setter would avoid repetition between different types of question within one question paper.

PAPER: HISTORY AND CULTURE OF PUNJAB IN THE COLONIAL AND POST INDEPENDENCE TIMES

| | | |
|---------------------|---|---------|
| Max. Marks | : | 50 |
| Theory | : | 45 |
| Internal Assessment | : | 05 |
| Time | : | 3 Hours |

- Objectives:** To introduce the students to the history of Punjab region in modern times.
Pedagogy: Lectures, library work and discussions.

UNIT I

1. Introduction of Colonial Rule in Punjab: Annexation of Punjab; Board of Administration.
2. Western Education: Growth of Education and rise of middle classes.
3. Agrarian Development: Commercialization of agriculture; canalization and colonization.

UNIT II

4. Early Socio Religious Reform: Christian Missionaries; Namdharis; Nirankaris.
5. Socio Religious Reform Movements: activities of Arya Samaj; Singh sabhas; Ahmadiyah; Ad Dharam Movement
6. Development of Press & literature: growth of print technology; development in literature

UNIT III

7. Emergence Of Political Consciousness: Ghadar Movement; Jallianwala Bagh Massacre
8. Gurudwara Reform Movement; major Morchas; Activities of Babbar Akalis.
9. Struggle for Freedom: Non Cooperation Movement; HSRA and Bhagat Singh; Civil Disobedience Movement; Quit India Movement.

UNIT IV

10. Partition and its Aftermath: resettlement; rehabilitation
11. Post-Independence Punjab: Linguistic Reorganization; Green Revolution.
12. MAP (physical geographical map of undivided Punjab): Major Historical places: Delhi, Kurukshetra, Jaito, Ferozepur, Ambala, Amritsar, Lahore, Ludhiana, Qadian, Jalandhar, Lyallpur, Montgomery.

Suggested Readings:

1. Singh, Kirpal : History and Culture of the Punjab, Part II(Medieval Period), Publication Bureau, Punjabi University, Patiala 1990(3rd edn.).
2. Singh, Fauja(ed.) : History of the Punjab, Vol.III, Punjabi University, Patiala 1972.
3. Grewal, J.S. : The Sikhs of the Punjab, the New Cambridge History of India, Orient Longman, Hyderabad,1990.
4. Singh, Khuswant : A History of the Sikhs, vol I: 1469-1839, oxford University Press, Delhi, 1991.
5. Chopra, P.N.,Puri, B.N. : A Social, Cultural and Economic History of India, Vol.II, And Das, M.N. Macmillan, delhi, 1974.

ELECTRONICS

(KEPT IN ABEYANCE)

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AGRICULTURE

SEMESTER-I

Paper-I : Basics of Agricultural Botany & Forestry (THEORY)

| | |
|---------------------|------------|
| Max. Marks | : 75 |
| Theory | : 70 marks |
| Internal Assessment | : 5 marks |
| Time | : 3 Hours |

- Period per week :**
1. Theory - 4 of 45 minutes duration each.
 2. Practical - Two of three hours duration.

INSTRUCTIONS FOR THE PAPER SETTER AND THE STUDENTS:

1. The syllabus of this paper has been divided into Four Units.
2. Question paper shall comprise of 9 questions in all.
3. Question I shall comprise of 10 short answer type questions covering the whole syllabus and will be **compulsory**. Each question will carry 1 (one) mark.
4. Units I, II, III and IV shall have two questions each from respective units, out of which one question from each unit is to be attempted. Each question will be of 15 (fifteen) marks.
5. Total five questions are to be attempted.

Unit-I

Plant Morphology - Root, Stem, Leaf - Their types and modifications.

Inflorescence - Types and classification.

Flower - Parts and their functions.

Fruit - Types and classification.

Unit-II

Pollination - Types, Significance, Emasculation, Techniques, mode of Reproduction and their significance

Life cycle of a typical angiosperm. Objectives of Plant Breeding, introduction to self – Incompatibility.

Unit-III

Cultivation practices including soil requirements, Water requirements, Improved varieties of the region for:

Cereals - Wheat, Rice, Maize.

Fibres – Cotton, Jute.

Oil Crops - Sarson, Soyabean.

Fruits - Mango, Grapes, Citrus, Sapota.

Unit-IV

Importance of forests, Important forest trees of India and status of forestry in Punjab, its significance.

Raising of Nurseries for forestry.

Social forestry: Definition, concept & its significance.

PRACTICAL

| | |
|---------------------|------------|
| Max. Marks | : 25 |
| Practical | : 20 marks |
| Internal Assessment | : 5 marks |
| Time | : 3 Hours |

Study of root, stem, leaf modifications.

Raising of crops/visit to farms/fields to have knowledge of various agricultural tools, implements, and methods of crop production of related area.

Visit to Fruit and Forest nurseries.

Performance of emasculation techniques.

Books Recommended:

1. ICAR : *Hand Book of Agriculture*, New Delhi (2008).
2. S.S. Sinha, P. Gupta and A.K. Gupta : *Hand Book of Agricultural Science*, Kalyani Publishers, Ludhiana (2009).
3. P.A.U., Ludhiana (2010). : *Rabi Crops Package of Practices*,
4. P.A.U., Ludhiana (2010). : *Kharif Crops Package of Practices*,
5. Bhatia : *Elementary Biology*, Trumen Publishers, Jalandhar (2010).
6. Alan Stephens : *Dictionary of Agriculture*, Universal Book Stall, New Delhi (1998).
7. Chidda Singh, Prem Singh and Rajbir Singh : *Modern Techniques of Raising Field Crops*, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi (2009).
8. B.S. Chundawat and S.K. Gautam : *Text Book of Agroforestry*, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi (2006).

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AGRICULTURE SEMESTER-II

Paper-II: Agricultural Economics and Agronomy (THEORY)

| | | |
|------------|---|-------------------|
| Max. Marks | : | 75 |
| Theory | : | 70 marks Internal |
| Assessment | : | 5 marks |
| Time | : | 3 Hours |

- Period per week:**
1. Theory - 4 of 45 minutes duration each.
 2. Practical - Two of three hours duration.

INSTRUCTIONS FOR THE PAPER SETTER AND THE STUDENTS:

1. The syllabus of this paper has been divided into Four Units.
2. Question paper shall comprise of 9 questions in all.
3. Question I shall comprise of 10 short answer type questions covering the whole syllabus and will be **compulsory**. Each question will carry 1 (one) mark.
4. Units I, II, III and IV shall have two questions each from respective units, out of which one question from each unit is to be attempted. Each question will be of 15 (fifteen) marks.
5. Total five questions are to be attempted.

Unit-I

Agricultural Banking, Agricultural Loans – Its various types, repayment mode, form filling for agricultural loans.

National policy for agricultural loans.

Agriculture credit cards.

Fundamentals of land measurements and land revenue

Unit-II

Various legal aspects of import and export of raw crop and crop products.

Quarantine laws.

Fundamentals of agricultural economics.

Psychological pressure on farmer and villagers of different classes.

Unit-III

Storage of vegetables, Fruits, Grains at local and large level.

Vegetable and fruit preservation.

Unit-IV

Soil types, Management, Improvement and Amendments. Soil Testing.

Fundamental of fertilizers and manures.

Important fertilizers and their uses.

Nitrogen fixation.

PRACTICAL

| | |
|---------------------|------------|
| Max. Marks | : 25 |
| Practical | : 20 marks |
| Internal Assessment | : 5 marks |
| Time | : 3 Hours |

Visit to Agricultural, Rural Banks to have basic knowledge of loan processing and recovery.

Identification of financial problems of a village.

Identification and collection of fertilizers.

Preservation of fruits and vegetables in Pickle, Jam, Jellies, Squash and Sauce forms.

Books Recommended:

1. K.T. Acharya : *Every Day Indian Processed Foods*, National Book Trust, New Delhi (2008).
2. Malkit Nagi and Satinder Bajaj : *Home Preservation of Fruit and Vegetables*, P.A.U., Ludhiana (2008).
3. ICAR : *Hand Book of Agriculture*, New Delhi.
4. T.D. Biswas and S.K. Mukherjee : *Text Book of Soil Sciences*, Kalyani Publishers, Ludhiana (2008).
5. Girdhari Lal, G.S. Siddappa and G.L. Tandon : *Preservation of Fruit and Vegetables*, ICAR Publication, New Delhi (2008)
6. Das and Gupta : *Manures and Fertilizers*, Kalyani Publishers, Ludhiana (1999).

**ENGLISH (Elective)
SEMESTER –I**

| | | |
|--------------------------|---|-------------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | Three Hours |
| Teaching hours per week: | | 06 |

Section -A

The following Units from **Fluency in English** Ed., Promodini Verma, Mukti Sanyal, Tulika Prasad, New Delhi: Macmillan India, 2009 (**the prescribed text**) are recommended for **First Semester**:

Units: 1, 3, 5, 6, 7, 8, 9, 10, 12, 14, 16, 17

Literary Terms: Ballad, Sonnet, Ode, Lyric, Elegy, Dramatic Monologue, Interior Monologue, Blank Verse, Free Verse, Mock-Epic, Metaphysical Conceit, Negative Capability, Egotistical Sublime, Fancy, Imagination, Irony, Paradox, Ambiguity, Alliteration, Assonance, Imagery.

Testing Pattern:

- Q.1. It shall be on literary terms/concepts. Eight terms shall be given in all and the students will (15 marks) be required to do five in not more than 50-60 words.
- Q.2. The examiner will set twelve short questions (to be answered in not more than 30-40 (15 marks) words) from **Fluency in English (the prescribed text)**, out of which a student shall be expected to attempt any *ten*.
- Q.3. The examiner shall give two passages from the anthology **Fluency in English** along with (15 marks) five questions. The students shall be expected to attempt only one passage of the two. In other words, this question shall have internal choice. This question shall test the comprehension, critical acumen and the presentation skills of a student.

Section -B

- Q.4. Letter Writing (Official) (10marks)
- Q.5. Applied Grammar:
- (a) Voice, Direct/Indirect, Transformation of Sentences (15 marks)
(simple, complex, compound)
- (b) Articles, Preposition, Conjunctions (10 marks)
- Q.6. Vocabulary:
- Antonyms/Synonyms, Use of words/phrases in sentences (10 marks)

ENGLISH (Elective)**SEMESTER –II**

| | | |
|--------------------------|---|-------------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | Three Hours |
| Teaching hours per week: | | 06 |

Section -A

The following Essays, Stories and Plays from the prescribed book ‘**A Collection of Essays, Short Stories & One Act Plays**, Ed., R.K Kaushik & S.C. Bhatia, New Delhi, OUP, 2006. (Included in Section -A) are recommended for **Second Semester**:

Essays 1-6

Stories 1-6

Plays 1-4

Literary terms/concepts: Prose, Essay, Expository Essay, Analytical /Argumentative Essay, Lyrical Essay, Descriptive Essay, Imaginative Essay, Philosophical Essay, Short Story, Long Story, Drama, Dramatic Plot, Character, Incident, Setting, Structure, Tragedy, Comedy, Tragi-comedy

Testing Pattern:

- Q. 1. Literary terms/concepts (Five out of Eight) (15 marks)
- Q. 2. Ten short questions to be attempted out of fourteen, based on **A Collection of Essays, Short Stories and One Act Plays**’ (each to be answered in not more than 30-40 words.) (15 marks)
- Q. 3. Long questions *five out of seven*, again based on **A Collection of Essays, Short Stories and One Act Plays**’ (each to be answered in not more than 100-120 words) . (15 marks)

Section -B

- Q. 4. Paragraph Writing (based on outline, a situation, a string of questions etc.) (15 marks)
- Q. 5. Applied Grammar-
- (a) Corrections (10 marks)
- (b) Use of the same words as different parts of speech (10 marks)
- Q. 6. Translation from Vernacular into English (10 sentences only) (10 marks)

OR

(For foreign students, a paragraph on any one of the two given topics, preferably, proverbs or idioms)

हिंदी (ऐच्छिक)
सेमेस्टर-1

पूर्णांक : 90+10=100
समय : तीन घण्टे

1. कवितालोक
संपादक: डॉ० शिवकुमार शर्मा, पब्लिकेशन ब्यूरो, पंजाब विश्वविद्यालय, चंडीगढ़ द्वारा प्रकाशित ।
निम्नलिखित चार कवियों की रचनाएँ पाठ्यक्रम में निर्धारित की गयी हैं-
कबीर, रैदास, गुरुनानक देव, सूरदास ।
(क) 8 अंकों की एक सन्दर्भ सहित व्याख्या करनी होगी। कुल 2 सन्दर्भ पूछे जायेंगे । अंक-08
(ख) 8 अंकों का एक समीक्षात्मक प्रश्न करना होगा। कुल 2 प्रश्न पूछे जायेंगे । अंक-08
इस खण्ड में से कवि-परिचय, कविता-सार तथा उद्देश्य सम्बन्धी प्रश्न पूछे जायेंगे।
उत्तरों की शब्द-सीमा 200 होगी।
2. सजीव कहानियाँ :
संपादक: डॉ० लक्ष्मीचंद खुराना, पब्लिकेशन ब्यूरो, पंजाब विश्वविद्यालय
चंडीगढ़ द्वारा प्रकाशित । निम्नलिखित सात कहानियाँ पाठ्यक्रम में हैं-
शतरंज के खिलाड़ी, ममता, अशिक्षित का हृदय, मौत के मुँह में, न्याय मंत्री, गुलाब, सभ्य-असभ्य
(क) 5 अंकों की दो सन्दर्भ सहित व्याख्याएँ करनी होंगी। कुल 4 व्याख्याएँ पूछी जायेंगी। अंक-10
(ख) 6 अंकों का एक समीक्षात्मक प्रश्न करना होगा। अंक-06
इस खण्ड में कथावस्तु, चरित्र-चित्रण एवं उद्देश्य से सम्बंधित कुल दो प्रश्न पूछे जायेंगे।
प्रत्येक उत्तर की शब्द-सीमा 200 तक होगी।
3. तीन - तीन अंकों के तीन लघु -उत्तरापेक्षी प्रश्न करने होंगे। अंक-09
कुल 6 प्रश्न पूछे जायेंगे प्रत्येक उत्तर की शब्द-सीमा 50 तक होगी। ये प्रश्न इस पत्र के पूर्वोक्त दो खण्डों
(कवितालोक एवं सजीव कहानियाँ) पर आधारित होंगे।
4. हिंदी-साहित्य का इतिहास : अंक-07
आदिकाल (अपभ्रंश साहित्य को छोड़कर) से निम्नलिखित शीर्षकों पर आधारित प्रश्न पूछे जायेंगे।
आदिकाल का नामकरण, काल-सीमा, परिस्थितियाँ, प्रवृत्तियाँ और पृथ्वीराज रासो तथा बीसलदेव रासो का परिचय।
7 अंकों का एक समीक्षात्मक प्रश्न करना होगा। कुल दो प्रश्न पूछे जायेंगे।(शब्द-सीमा 200)
5. वस्तुनिष्ठ प्रश्न: अंक-10
इस पत्र के पूर्वोक्त तीन खण्डों के सम्बन्ध में 1-1 अंक के दस वस्तुनिष्ठ प्रश्नों के उत्तर देने होंगे।
कुल 15 प्रश्न पूछे जायेंगे।
6. समीक्षा सिद्धांत : अंक-07
कहानी: परिभाषा, तत्त्व और वर्गीकरण सम्बन्धी दो प्रश्न पूछे जायेंगे।
7 अंकों का केवल एक प्रश्न करना होगा। (शब्द-सीमा 200)
7. व्यावहारिक व्याकरण: अंक-20
(क) विपरीतार्थक शब्द (सात में से पाँच करने होंगे।) 5 अंक
(ख) समानार्थक शब्द (सात में से पाँच करने होंगे।) 5 अंक
(ग) शब्द-शोधन और वाक्य-शोधन (सात में से पाँच करने होंगे।) 5 अंक
(घ) वाक्यांश के लिये एक शब्द (सात में से पाँच करने होंगे।) 5 अंक
8. पारिभाषिक शब्दावली : (संलग्न शब्दावली) अंक-05
कुल 8 में से 5 के उत्तर देने होंगे।
9. आंतरिक मूल्यांकन : अंक-10
सहायक पुस्तकें-
हिंदी साहित्य का इतिहास: कुसुम वर्मा

निर्देश: छह लेक्चर Text के और तीन लेक्चर व्याकरण के अनिवार्य होंगे।

पारिभाषिक शब्दावली**A**

| | | |
|-----|---------------|--------------------------------|
| 1. | Abbreviation | संक्षिप्ति |
| 2. | Absence | अनुपस्थिति, गैरहाजिरी |
| 3. | Accommodation | आवास |
| 4. | Advice | परामर्श, सलाह, सूचना, संज्ञापन |
| 5. | Allegiance | निष्ठा |
| 6. | Alteration | परिवर्तन, हेर-फेर |
| 7. | Amendation | संशोधन |
| 8. | Appendix | परिशिष्ट |
| 9. | Assistant | सहायक |
| 10. | Attendance | उपस्थिति, हाजिरी |

B

| | | |
|-----|------------------|--------------------------|
| 11. | Basic pay | मूल वेतन |
| 12. | Birth Date | जन्म तिथि, जन्म की तारीख |
| 13. | Block | खंड, ब्लाक |
| 14. | Board | बोर्ड, मंडल |
| 15. | Break in Service | सेवा में व्यवधान |
| 16. | By Hand | दस्ती |

C

| | | |
|-----|----------------------|---------------------|
| 17. | Cancel | रद्द करना |
| 18. | Clarification | स्पष्टीकरण |
| 19. | Closing Balance | अंत-शेष, रोकड़ बाकी |
| 20. | Committee | समिति |
| 21. | Competence | सक्षमता |
| 22. | Conference | सम्मेलन |
| 23. | Confirmation | पुष्टि |
| 24. | Consolidated fund | समेकित निधि |
| 25. | Conveyance allowance | वाहन भत्ता |
| 26. | Corruption | भ्रष्टाचार |
| 27. | Covering letter | सहपत्र |

D

| | | |
|-----|--------------------|--|
| 28. | Dealing Assistant | संबंधित सहायक |
| 29. | Dearness Allowance | मंहगाई भत्ता |
| 30. | Department | विभाग |
| 31. | Deputy Secretary | उपसचिव |
| 32. | Dissent | विसम्मति, विमति, (विधि), अहसमति |
| 33. | Duplicate | अनुलिपि, दूसरी प्रति |
| 34. | Duration | अवधि |
| 35. | Duty | इयूटी, काम, कार्य, कर्तव्य, भार, शुल्क |

E

| | | |
|-----|------------|---------------------------|
| 36. | Encashment | भुनाना, तुड़ाना |
| 37. | Entry | प्रविष्टि, इंदराज, प्रवेश |
| 38. | Evidence | साक्ष्य, गवाही, प्रमाण |
| 39. | Expert | विशेषज्ञ |
| 40. | Export | निर्यात |
| 41. | Extract | उद्धरण |

F

| | | |
|-----|----------------------|---|
| 42. | Fitness Certificate | स्वस्थता प्रमाणपत्र, योग्यता प्रमाणपत्र |
| 43. | Fresh Receipt (F.R.) | नई आवती |
| 44. | Further Action | आगे की कार्रवाई, अगली कार्यवाही |

G

| | | |
|-----|-----------------|----------------------------|
| 45. | General Manager | प्रधान प्रबंधक, महाप्रबंधक |
| 46. | General Meeting | साधारण सभा, साधारण बैठक |
| 47. | Grant-in-aid | सहायता-अनुदान |
| 48. | Guidance | मार्गदर्शन, निर्देशन |

H

| | | |
|-----|-----------------|--------------------------|
| 49. | Head Clerk | प्रधान लिपिक, हैड क्लर्क |
| 50. | Head of Account | लेखा-शीर्ष |
| 51. | Head office | प्रधान कार्यालय |
| 52. | Head Quarter | मुख्यालय |
| 53. | Holiday | अवकाश |

I

| | | |
|-----|-------------------|--|
| 54. | Immediate officer | आसन्न अधिकारी |
| 55. | Import | आयात |
| 56. | Increment | वेतन-वृद्धि |
| 57. | Inquiry | पूछताछ, जाँच |
| 58. | Inspector | निरीक्षक |
| 59. | Instruction | अनुदेश, हिदायत |
| 60. | Instructor | अनुदेशक |
| 61. | Interpretation | निर्वचन, व्याख्या |
| 62. | Intimation | प्रज्ञापन, सूचना, इत्सिला |
| 63. | Investigation | अन्वेषण, तफ्तीश, जाँच-पड़ताल |
| 64. | Irrelevant | असंबद्ध, विसंगत |
| 65. | Issue | (संज्ञा) निर्गम, प्रश्न, मसला, (क्रिया) जारी करना, भेजना, देना |

J

| | | |
|-----|-----------------|------------------------------------|
| 66. | Job | नौकरी, जाँच, कार्य |
| 67. | Joining Date | कार्यग्रहण-तारीख, कार्यारम्भ-तारीख |
| 68. | Joint Secretary | संयुक्त सचिव |

L

| | | |
|-----|-------------------|----------------|
| 69. | Labour Welfare | श्रम-कल्याण |
| 70. | Leave Salary | छुट्टी का वेतन |
| 71. | Leave Vacancy | अवकाश-रिक्ति |
| 72. | Length of Service | सेवाकाल |

हिंदी (ऐच्छिक)
सेमेस्टर-2

पूर्णांक : 90+10=100

समय : तीन घण्टे

1. कवितालोक
संपादक: डॉ॰ शिवकुमार शर्मा, पब्लिकेशन ब्यूरो, पंजाब विश्वविद्यालय, चंडीगढ़ द्वारा प्रकाशित।
निम्नलिखित तीन कवियों की रचनाएँ पाठ्यक्रम में निर्धारित की गयी हैं-
मीराबाई, तुलसीदास, गिरधर कविराय।
(क) 8 अंकों की एक सन्दर्भ सहित व्याख्या करनी होगी। कुल 2 सन्दर्भ पूछे जायेंगे। अंक-08
(ख) 8 अंकों का एक समीक्षात्मक प्रश्न करना होगा। कुल 2 प्रश्न पूछे जायेंगे। अंक-08
इस खण्ड में से कवि-परिचय, कविता-सार तथा उद्देश्य सम्बन्धी प्रश्न पूछे जायेंगे।
उत्तरों की शब्द-सीमा 200 होगी।
2. झाँसी की रानी-वृन्दावनलाल वर्मा, मयूर प्रकाशन, झाँसी। अंक-16
नामकरण, कथावस्तु, चरित्र-चित्रण एवं उद्देश्य से सम्बंधित कुल 4 समीक्षात्मक प्रश्न पूछे जायेंगे,
जिनमें से 8 अंकों के कोई दो प्रश्न करने होंगे। प्रत्येक उत्तर की शब्द-सीमा 200-250 होगी।
3. हिंदी साहित्य का विकास : अंक-08
भक्तिकाल: निम्न शीर्षकों पर आधारित 2 प्रश्न पूछे जायेंगे।
एक ही प्रश्न का उत्तर देना होगा। (शब्द-सीमा 200)
भक्तिकाल की परिस्थितियाँ, संतकाव्य, प्रेमाख्यानकाव्य, रामकाव्य और कृष्ण काव्य की विशेषताएँ,
कबीर, जायसी, तुलसी और सूरदास।
4. वस्तुनिष्ठ प्रश्न : अंक-10
इस पत्र के पूर्वोक्त तीनों खण्डों के सम्बन्ध में 1-1 अंक के दस वस्तुनिष्ठ प्रश्नों के उत्तर देने होंगे।
कुल 15 प्रश्न पूछे जायेंगे।
5. समीक्षा सिद्धांत : अंक-07
उपन्यास : परिभाषा, तत्त्व और वर्गीकरण सम्बन्धी दो प्रश्न पूछे जायेंगे।
7 अंकों का केवल एक प्रश्न करना होगा। (शब्द-सीमा 200)
6. मुहावरे और लोकोक्तियाँ (सात में से पाँच करने होंगे।) अंक-10
7. निर्धारित विषय पर अनुच्छेद-लेखन (तीन में से एक प्रश्न करना होगा।) अंक-10
8. निजी पत्र-लेखन (दो में से एक प्रश्न करना होगा) अंक-08
9. पारिभाषिक शब्दावली (संलग्न शब्दावली) अंक-05
10. आंतरिक मूल्यांकन अंक-10

निर्देश: छह लेक्चर Text के और तीन लेक्चर व्याकरण के अनिवार्य होंगे।

M

| | | |
|-----|-----------------|----------------------|
| 1.. | Management | प्रबंध |
| 2. | Medical | चिकित्सा |
| 3. | Medical Leave | चिकित्सा-छुट्टी |
| 4. | Medical Officer | चिकित्सा-अधिकारी |
| 5. | Messenger | संदेशवाहक |
| 6. | Ministry | मंत्रालय, मंत्रिमंडल |
| 7. | Modification | संशोधन, रूपांतर |
| 8. | Most Immediate | अति-तात्कालिक |

N

| | | |
|-----|------------------|-----------------------|
| 9. | Nationality | राष्ट्रीयता |
| 10. | Necessary Action | आवश्यक कार्रवाई |
| 11. | Negligence | उपेक्षा, प्रमाद, गफलत |
| 12. | No-Objection | अनापत्ति |
| 13. | Non-Official | गैर-सरकारी, अशासकीय |

O

| | | |
|-----|-------------------|-------------------------------|
| 14. | Obedience | आज्ञापालन, आज्ञानुवर्तन |
| 15. | Objection | आपत्ति |
| 16. | Offence | अपराध |
| 17. | Offer | प्रस्ताव |
| 18. | Office | कार्यालय, दफतर, पद |
| 19. | Office Copy | कार्यालय-प्रति, दफतर की प्रति |
| 20. | Office Hours | कार्यालय-समय |
| 21. | Office Order | कार्यालय-आदेश |
| 22. | Officer | अधिकारी, अफसर |
| 23. | Officer-in-charge | प्रभारी अधिकारी |
| 24. | Officiating | स्थानापन्न |
| 25. | Option | विकल्प |
| 26. | Original Copy | मूल प्रति |
| 27. | Outstanding | बकाया |
| 28. | Overtime | समयोपरि, अतिरिक्त समय |

P

| | | |
|-----|-----------|----------|
| 29. | Part Time | अंशकालिक |
| 30. | Pay | वेतन |

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| | | |
|----------|------------------|------------------------------------|
| 31. | Payment | अदायगी |
| 32. | Penalty | दंड, अर्थ-दंड, जुर्माना |
| 33. | Pending | अनिर्णीत पड़ा हुआ, रुका हुआ, लंबित |
| 34. | Pension | पेंशन |
| 35. | Planning | योजना, योजना बनाना |
| 36. | Proceedings | कार्यवाही |
| 37. | Proposal | प्रस्ताव |
| 38. | Publicity | प्रचार |
| 39. | Postpone | स्थगित करना, मुलतवी करना |
| Q | | |
| 40. | Qualification | अर्हता, योग्यता |
| 41. | Quarterly | त्रैमासिक |
| R | | |
| 42. | Rectification | परिशोधन |
| 43. | Reference | संदर्भ, निर्देश, हवाला |
| 44. | Remark | विचार, अभ्युक्ति |
| 45. | Remuneration | पारिश्रमिक, मेहनताना |
| 46. | Renewal | नवीनीकरण |
| 47. | Revenue | राजस्व |
| S | | |
| 48. | Satisfactory | संतोषजनक |
| 49. | Scrutiny | संवीक्षा |
| 50. | Seal | मुद्रा, मोहर |
| 51. | Secret | गुप्त, गुप्त बात |
| 52. | Security | प्रतिभूति, सुरक्षा |
| 53. | Seniority | वरिष्ठता |
| 54. | State Government | राज्य सरकार |
| 55. | Stores | सामान, सामग्री, भंडार |
| 56. | Summary | सारांश, संक्षेप |
| 57. | Superintendent | अधीक्षक |
| 58. | Supervisor | पर्ववेक्षक |
| T | | |
| 59. | Target | लक्ष्य |
| 60. | Technical | तकनीकी |
| 61. | Testimonial | शंसापत्र |
| 62. | Tour | दौरा |
| 63. | Training | प्रशिक्षण |
| 64. | Translation | अनुवाद |

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| 65. | Travelling Allowance | यात्रा-भत्ता |
| | U | |
| 66. | Under Secretary | अवर-सचिव |
| 67. | Unemployment | बेकारी, बेरोजगारी |
| 68. | Unofficial Letter | अशासकीय पत्र |
| 69. | Up-to-date | अद्यतन |
| | V | |
| 70. | Verification | सत्यापन |
| 71. | Violation | अतिक्रमण |
| | W | |
| 72. | Waiting list | प्रतीक्षा-सूची |
| 73. | Warning | चेतावनी |
| 74. | Working days | कार्य-दिवस, काम के दिन |
| 75. | Working Hours | कार्य-समय, काम के घंटे |
| 76. | Working Knowledge | कार्य-साधक-ज्ञान |
| 77. | Write off | बूट्टे-खाते डालना |
| | Z | |
| 78. | Zone | जोना, अंचल |

ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)
ਬੀਏ ਜਨਰਲ ਭਾਗ ਪਹਿਲਾ ਦਸੰਬਰ 2023 ਦੇ ਇਮਤਿਹਾਨ ਲਈ
ਸਮੇਸਟਰ ਪਹਿਲਾ

ਕੁੱਲ ਅੰਕ : 100
ਲਿਖਤੀ : 90
ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ : 10
ਸਮਾਂ : 3 ਘੰਟੇ

ਪਾਠਕ੍ਰਮ

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| 1. | ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਅਧਿਐਨ | 25 ਅੰਕ |
| 2. | ਪੰਜਾਬੀ ਇਕਾਂਗੀ | 25 ਅੰਕ |
| 3. | ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (1901 ਤੋਂ 2000 ਤੱਕ) | 20 ਅੰਕ |
| 4. | ਭਾਸ਼ਾ ਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ | 10 ਅੰਕ |
| 5. | ਸਾਹਿਤ ਦੇ ਰੂਪ | 10 ਅੰਕ |

ਕੋਰਸ

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| 1. | ਨਕਸ਼ ਨੁਹਾਰ (ਸੰਪਾ.) ਡਾ. ਜਸਵਿੰਦਰ ਸਿੰਘ, ਅਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ(1901 ਈ: ਤੋਂ 2000 ਈ: ਤੱਕ), ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ। (ਨਿਰਧਾਰਤ ਕਵੀ: ਭਾਈ ਵੀਰ ਸਿੰਘ, ਪ੍ਰੋ. ਪੂਰਨ ਸਿੰਘ, ਧਨੀ ਰਾਮ ਚਾੜ੍ਹਕ, ਪ੍ਰੋ. ਮੋਹਨ ਸਿੰਘ, ਅੰਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ, ਬਾਵਾ ਬਲਵੰਤ, ਸ਼ਿਵ ਕੁਮਾਰ ਬਟਾਲਵੀ, ਡਾ. ਹਰਿਭਜਨ ਸਿੰਘ, ਡਾ. ਜਗਤਾਰ) | |
| 2. | ਛੇ ਦਰਸ਼ਨ , ਸੰਤ ਸਿੰਘ ਸੇਖੋ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ। ('ਨਿਸ਼ਾਂਤ ਬਾਗ ਵਿੱਚ' ਇਕਾਂਗੀ ਨੂੰ ਛੱਡ ਕੇ) | |

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

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| 1. | (ੳ) 'ਨਕਸ਼ ਨੁਹਾਰ' ਪੁਸਤਕ ਵਿਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |
| | (ਅ) 'ਛੇ ਦਰਸ਼ਨ' ਇਕਾਂਗੀ ਦੇ ਵਾਰਤਾਲਾਪੀ ਅੰਸ਼ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |
| 2. | (ੳ) ਕਾਵਿ ਸੰਗ੍ਰਹਿ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ-ਵਸਤੂ / ਥੀਮ ਸਪਸ਼ਟ ਕਰੋ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |
| | (ਅ) ਇਕਾਂਗੀ ਦੀ ਸਾਹਿਤਕ ਪਰਖ (ਦੋ ਵਿਚੋਂ ਇਕ) (ਸਾਹਿਤਕ ਪਰਖ ਵਿਚ ਵਿਸ਼ੇ, ਵਿਧੀ, ਪਲਾਟ ਤੇ ਪਾਤਰ ਚਿਤਰਨ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣ) | 10 ਅੰਕ |
| 3. | ਕਾਵਿ ਸੰਗ੍ਰਹਿ ਤੇ ਇਕਾਂਗੀ ਸੰਗ੍ਰਹਿ ਵਿਚੋਂ ਲਘੂ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਅੱਠ ਵਿਚੋਂ ਪੰਜ) (ਪ੍ਰਸ਼ਨ ਦਾ ਉੱਤਰ ਤਿੰਨ-ਚਾਰ ਸਤਰਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) | 2 x 5=10 ਅੰਕ |
| 4. | ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (1901 ਈ. ਤੋਂ 2000 ਈ: ਤੱਕ) : ਕਵਿਤਾ, ਨਾਟਕ ਤੇ ਇਕਾਂਗੀ ਸਾਹਿਤ ਵਿਚੋਂ ਇਤਿਹਾਸ ਨਾਲ ਸੰਬੰਧਤ (ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ) (ਛੇ ਵਿਚੋਂ ਕੋਈ ਚਾਰ -ਉੱਤਰ 50 ਸ਼ਬਦਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) | 5 x 4=20 ਅੰਕ |
| 5. | ਭਾਸ਼ਾ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ: ਭਾਸ਼ਾ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਪ੍ਰਕਿਰਤੀ, ਪ੍ਰਯੋਜਨ ਤੇ ਮਹੱਤਵ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |
| 6. | ਸਾਹਿਤ ਦੇ ਰੂਪ : ਪਰਿਭਾਸ਼ਾ ਤੇ ਤੱਤ ਕਵਿਤਾ, ਗੀਤ, ਗਜ਼ਲ, ਇਕਾਂਗੀ, ਨਾਵਲ, ਕਹਾਣੀ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |

ਵਿਸ਼ੇਸ਼ ਨੋਟ : ਸਮੁੱਚੇ ਪਾਠਕ੍ਰਮ ਲਈ ਹਫ਼ਤੇ ਵਿਚ 6 + 6 = 12 ਪੀਰੀਅਡ

ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)
ਬੀ.ਏ. (ਜਨਰਲ ਭਾਗ) ਪਹਿਲਾ ਅਪ੍ਰੈਲ/ ਮਈ 2024 ਦੇ ਇਮਤਿਹਾਨ ਲਈ
ਸਮੇਸਟਰ ਦੂਜਾ

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| ਕੁੱਲ ਅੰਕ: | 100 |
| ਲਿਖਤੀ: | 90 |
| ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ: | 10 |
| ਸਮਾਂ: | 3 ਘੰਟੇ |

ਪਾਠਕ੍ਰਮ

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| 1. | ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਅਧਿਐਨ | 25 ਅੰਕ |
| 2. | ਪੰਜਾਬੀ ਨਾਵਲ | 25 ਅੰਕ |
| 3. | ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (1901 ਤੋਂ 2000 ਤੱਕ) | 20 ਅੰਕ |
| 4. | ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ | 10 ਅੰਕ |
| 5. | ਸਾਹਿਤ ਆਲੋਚਨਾ | 10 ਅੰਕ |

ਕੋਰਸ

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| 1. | ਨਕਸ਼ ਨੁਹਾਰ (ਸੰਪਾ.) ਡਾ. ਜਸਵਿੰਦਰ ਸਿੰਘ, ਅਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ(1901 ਈ: ਤੋਂ 2000 ਈ: ਤੱਕ), ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ। (ਨਿਰਧਾਰਤ ਕਵੀ: ਪਾਸ਼, ਸੰਤ ਰਾਮ ਉਦਾਸੀ, ਸੁਰਜੀਤ ਪਾਤਰ, ਜਸਵੰਤ ਦੀਦ, ਨਵਤੇਜ ਭਾਰਤੀ, ਸੁਖਵਿੰਦਰ ਅੰਮ੍ਰਿਤ, ਦਰਸ਼ਨ ਬੁਲੰਦਵੀ, ਜਸਵਿੰਦਰ, ਸੁਖਪਾਲ) | |
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| 2. | ਬਲਦੇ ਦੀਵੇ , ਰਜੀਆ ਨੂਰ ਮੁਹੰਮਦ, ਦੀਪਕ ਪਬਲਿਸ਼ਰਜ਼, ਜਲੰਧਰ | |
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ਯੂਨਿਟ ਅਤੇ ਥੀਮ

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| 1. | (ੳ) ਨਕਸ਼ ਨੁਹਾਰ ਕਾਵਿ ਪੁਸਤਕ ਵਿਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |
| | (ਅ) ਕਾਵਿ ਸੰਗ੍ਰਹਿ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ-ਵਸਤੂ ਸਪਸ਼ਟ ਕਰੋ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |
| 2. | (ੳ) ਬਲਦੇ ਦੀਵੇ ਨਾਵਲ ਵਿਚੋਂ ਪ੍ਰਮੁੱਖ ਘਟਨਾਵਾਂ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |
| | (ਅ) ਨਾਵਲ ਦੀ ਸਾਹਿਤਕ ਪਰਖ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |
| | (ਸਾਹਿਤਕ ਪਰਖ ਵਿਚ ਵਿਸ਼ੇ, ਵਿਧੀ, ਪਲਾਟ ਤੇ ਪਾਤਰ ਚਿਤਰਨ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣ) | |
| 3. | ਕਾਵਿ ਸੰਗ੍ਰਹਿ ਤੇ ਨਾਵਲ ਵਿਚੋਂ ਲਘੂ ਉੱਤਰ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਅੱਠ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਪੰਜ) | 2 x 5=10 ਅੰਕ |
| | (ਪ੍ਰਸ਼ਨ ਦਾ ਉੱਤਰ ਤਿੰਨ-ਚਾਰ ਸਤਰ ਤੋਂ ਵੱਧ ਨਾ ਹਵੇ) | |
| 4. | ਪੰਜਾਬੀ ਸਾਹਿਤਕ ਦਾ ਇਤਿਹਾਸ (1901 ਈ. ਤੋਂ 2000 ਈ. ਤੱਕ) : ਨਾਵਲ, ਕਹਾਣੀ ਤੇ ਸ਼ਬਦਰਾਮਾ | 5 x4=20 ਅੰਕ |
| | ਸਾਹਿਤ ਵਿਚੋਂ ਇਤਿਹਾਸ ਨਾਲ ਸੰਬੰਧਤ ਸੰਖੇਪ ਉੱਤਰ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਛੇ ਵਿਚੋਂ ਕੋਈ ਚਾਰ - ਉੱਤਰ 50 ਸ਼ਬਦ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) | |
| 5. | ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ : | 10 ਅੰਕ |
| | (ੳ) ਪੁਨੀ ਸੰਪਰਦਾਇ (ਅ) ਅਲੰਕਾਰ ਸੰਪਰਦਾਇ (ਮੁੱਢਲੀ ਜਾਣ-ਪਛਾਣ) | |
| | (ਦੋ ਸਵਾਲਾਂ ਵਿਚੋਂ ਇਕ ਕਰਨਾ) | |
| 6. | ਸਾਹਿਤ ਆਲੋਚਨਾ : ਸਾਹਿਤ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਪ੍ਰਕਿਰਤੀ, ਪ੍ਰਯੋਜਨ ਤੇ ਤੱਤ | 10 ਅੰਕ |
| | (ਦੋ ਸਵਾਲਾਂ ਵਿਚੋਂ ਇਕ ਕਰਨਾ) | |

ਸਹਾਇਕ ਪੁਸਤਕਾਂ :

1. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (ਆਧੁਨਿਕ ਕਾਲ), ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
2. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (ਆਧੁਨਿਕ ਕਾਲ), ਭਾਸ਼ਾ ਵਿਭਾਗ, ਪੰਜਾਬ, ਪਟਿਆਲਾ।
3. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੀ ਉਤਪੱਤੀ ਤੇ ਵਿਕਾਸ, ਡਾ. ਪਰਮਿੰਦਰ ਸਿੰਘ ਤੇ ਕ੍ਰਿਪਾਲ ਸਿੰਘ ਕਸੇਲ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
4. ਧਾਲੀਵਾਲ, ਪ੍ਰੇਮ ਸਿੰਘ (ਡਾ.) 'ਸਿਧਾਂਤਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ', ਮਦਾਨ ਪਬਲੀਕੇਸ਼ਨਜ਼, ਪਟਿਆਲਾ, 2002
5. ਬਰਾੜ, ਬੁਟਾ ਸਿੰਘ (ਡਾ.) 'ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਸ਼੍ਰੇਣੀ ਤੇ ਸਰੂਪ', ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਉਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ 2012.
6. ਜੱਗੀ, ਰਤਨ ਸਿੰਘ (ਡਾ.) 'ਸਾਹਿਤ ਦੇ ਰੂਪ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
7. ਆਹੂਜਾ, ਰੋਸ਼ਨ ਲਾਲ (ਡਾ.) 'ਸਾਹਿਤ ਸ਼ਾਸਤਰ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
8. ਸ਼ੈਰੀ ਸਿੰਘ ਤੇ ਬ੍ਰਹਮ ਜਗਦੀਸ (ਪ੍ਰੋ.), ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਉਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ
9. ਜੋਸ਼ੀ, ਜੀਤ ਸਿੰਘ, ਪੰਜਾਬੀ ਅਧਿਐਨ ਤੇ ਅਧਿਆਪਨ ਬਦਲਦੇ ਪਰਿਪੇਖ, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਉਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ

ਵਿਸ਼ੇਸ਼ ਨੋਟ : ਸਮੁੱਚੇ ਪਾਠਕ੍ਰਮ ਲਈ ਹਫ਼ਤੇ ਵਿਚ 6 + 6 = 12 ਪੀਰੀਅਡ।

संस्कृत (इलैक्टिव)
सेमेस्टर-1

Paper - Sanskrit :

कथा, नीति एवं व्याकरण

पूर्णांक: 90+10=100

(आन्तरिक परीक्षा- 10, लिखित परीक्षा- 90)

समय-3 घण्टे

निर्देश तथा उद्देश्य-

- प्रश्नपत्र का माध्यम हिन्दी होगा। उत्तरों का माध्यम संस्कृत, हिन्दी, पंजाबी या अंग्रेजी में से कोई एक भाषा होगी।
- विद्यार्थियों को रोचक कथाओं के माध्यम से काम-क्रोध-लोभ-मोह-अहंकार, मात्सर्य तथा ईर्ष्या इत्यादि दुर्गुणों के वशीभूत न होकर जीवन-पथ पर अग्रसर होने, विद्या का वास्तविक अर्थ एवं बुद्धि की महिमा की शिक्षा देना।
- इसके अतिरिक्त व्यावहारिक शब्दावली द्वारा विद्यार्थियों की संस्कृत के प्रति रुचि जागृत करना।
- संस्कृत पूर्ण वैज्ञानिक एवं व्याकरणनिष्ठ भाषा है। अतः विद्यार्थियों को संस्कृत व्याकरण के अध्ययनार्थ, अव्ययों का प्रयोग, संख्यावाची शब्द, शब्दरूप, धतुरूप एवं अन्य सामान्य ज्ञान से परिचित करवाना।
- पत्र का अध्ययन समय नौ पीरियड(प्रतिघण्टा) प्रतिसप्ताह होगा, जिसमें तीन पीरियड कम्पोजिशन के होंगे।
- सभी प्रश्नों में शतप्रतिशत अथवा निर्दिष्ट विकल्प आवश्यक हैं।

UNIT - I

| | | |
|-----|--|---------------|
| (क) | अपरीक्षितकारकम् (1-4 कहानी) | अंक-20 |
| | (i) गद्य-भाग (सप्रसंग अनुवाद - तीन में से एक) | 05अंक |
| | (ii) सूक्ति/श्लोक (दो की सप्रसंग-व्याख्या) | 10अंक |
| | (iii) कथासार | 05अंक |
| (ख) | नीतिशतकम् (1-25 श्लोक) | अंक-15 |
| | (i) श्लोक (दो की सप्रसंग व्याख्या) | 10अंक |
| | (ii) सूक्ति-सप्रसंग अनुवाद/ व्याख्या (तीन में से एक) | 05अंक |

UNIT - II

| | | | |
|-----|-------------------------------------|--|-------------------------|
| (ग) | व्यावहारिक संस्कृत शब्दावली: | शरीरांग, फल एवं सजियाँ सम्बन्धी (15 में से 10 शब्दों की संस्कृत) | अंक-10 |
| | 1. अगूँठा-अङ्गुष्ठः | 2. आँख-चक्षुः, लोचनम्, नेत्रम्, नयनम् | 3. अंगुली-अङ्गुलिः |
| | 4. ओठ-ओष्ठः | 5. कमर-श्रोणिः, कटिः | 6. कलाई-मणिबन्धः |
| | 7. कान-कर्णः, श्रोत्रम् | 8. गर्दन-श्रीवा | 9. घुटना-जानुः |
| | 10. जीभ-जिह्वा, रसना | 11. दाँत-दन्तः, दशनः | 12. नाक-घ्राणम्, नासिका |
| | 13. पेट-कुक्षिः, उदरम् | 14. बांह-बाहुः, भुजः | 15. भौं-भ्रूः |

| | | |
|--------------------------|---------------------------|-----------------------|
| 16. माथा-ललाटम् | 17. शरीर-गात्रम्, शरीरम् | 18. अंगूर-द्राक्षा |
| 19. अमरूद-आम्रलम् | 20. आम-आम्रम् | 21. काजू-काजवम् |
| 22. किशमिश-शुष्कद्राक्षा | 23. खजूर-खर्जूरम् | 24. जामुन-जम्बूफलम् |
| 25. तरबूज-तारबूजम् | 26. खरबूजा-खर्बुजम् | 27. नारियल-नारिकेलम् |
| 28. लीची-लीचिका | 29. सेव-सेवम् | 30. अंजीर-अंजीरम् |
| 31. नारंगी-नारंगम् | 32. बेल-बिल्वम्, श्रीफलम् | 33. बेर-बदरीफलम् |
| 34. मेवा-शुष्कफलम् | 35. आलू-आलुः | 36. ककडी-कर्कटी |
| 37. करेला-कारवेल्लम् | 38. गोभी-गोजिह्वा | 39. टमाटर-रक्ताङ्गम् |
| 40. टिंडा-टिंडिशः | 41. धनिया-धान्यकम् | 42. पालक-पालकीर्त्तम् |
| 43. प्याज-पलाण्डुः | 44. वैंगन-वंगनः | 45. भिंडी-भिंडकः |
| 46. मिर्च-मरीचम् | 47. मूली-मूलकम् | 48. लहसून-लशुनम् |
| 49. शलगम-श्वेतकन्दः | 50. साग-शाकः | |

UNIT-III

| | | |
|-----|---|----------|
| (घ) | वर्णों के उच्चारण स्थान | 4x1=4अंक |
| (ङ) | निम्नलिखित अव्ययों का वाक्यों में प्रयोग अत्र, तत्र, कुत्र, यत्र, अन्यत्र, सर्वत्र एकत्र, इतः, ततः, कुतः, कदा, तदा, यदा, सदा, तथा, यथा | 5x1=5अंक |
| (च) | संख्या (गणना) वाची शब्द (1 से 50 तक (पाँच शब्द) | 5x1=5अंक |
| (छ) | सामान्य- ज्ञान - तिथि, नक्षत्र, योग, करण, वार | 5अंक |
| (ज) | स्वर सन्धि (पाँच सन्धियाँ प्रष्टव्य) | 5x1=5अंक |

UNIT-IV

| | | |
|-----|---|----------|
| (झ) | शब्दरूप : राम, लता, फल, मुनि, मति, नदी (दो शब्दरूप प्रष्टव्य) | 2x4=8अंक |
| (ञ) | धातुरूप : पत, गम्, पठ्, क्रीड, वद्, पा (केवल लट्, लृट्, लोट्, लङ्, विधिलिङ् लकार में, दो धातुरूप प्रष्टव्य) | 2x4=8अंक |

UNIT-V

| | | |
|-----|---|----------|
| (ट) | हिन्दी से संस्कृत में अनुवाद (5 वाक्य) सहायक पुस्तकें – 1. अपरीक्षितकारकम्(विष्णुशर्मा)। 2. नीतिशतकम् (भर्तृहरि)। 3. शीघ्रबोध, चौखम्बा, वाराणसी। | 5x1=5अंक |
|-----|---|----------|

संस्कृत (इलैक्टिव)
सेमेस्टर-2

Paper - Sanskrit :

कथा, नीति एवं व्याकरण
(आन्तरिक परीक्षा- 10, लिखित परीक्षा- 90)

पूर्णांक: 90+10=100

समय-3 घण्टे

निर्देश तथा उद्देश्य-

- प्रश्नपत्र का माध्यम हिन्दी होगा। उत्तरों का माध्यम संस्कृत, हिन्दी, पंजाबी या अंग्रेजी में से कोई एक भाषा होगी।
- विद्यार्थियों को रोचक कथाओं के माध्यम से काम-क्रोध-लोभ-मोह-अहंकार, मात्सर्य तथा ईर्ष्या इत्यादि दुर्गुणों के वशीभूत न होकर जीवन-पथ पर अग्रसर होने, विद्या का वास्तविक अर्थ एवं बुद्धि की महिमा की शिक्षा देना।
- इसके अतिरिक्त व्यावहारिक शब्दावली द्वारा विद्यार्थियों की संस्कृत के प्रति रुचि जागृत करना।
- संस्कृत पूर्ण वैज्ञानिक एवं व्याकरणनिष्ठ भाषा है। अतः विद्यार्थियों को संस्कृत व्याकरण के अध्ययनार्थ, अव्ययों का प्रयोग, संख्यावाची शब्द, शब्दरूप, धतुरूप एवं अन्य सामान्य ज्ञान से परिचित करवाना।
- पत्र का अध्ययन समय नौ पीरियड(प्रतिघण्टा) प्रतिसप्ताह होगा, जिसमें तीन पीरियड कम्पोजिशन के होंगे।
- सभी प्रश्नों में शतप्रतिशत अथवा निर्दिष्ट विकल्प आवश्यक हैं।

(क) अपरीक्षितकारकम् (5-8 कहानी)

अंक-20

- | | | |
|-------|---|-------|
| (i) | गद्य-भाग (सप्रसंग अनुवाद - तीन में से एक) | 05अंक |
| (ii) | सूक्ति/श्लोक (दो की सप्रसंग-व्याख्या) | 10अंक |
| (iii) | कथासार | 05अंक |

(ख) नीतिशतकम् (26-50 श्लोक)

अंक-15

- | | | |
|------|---|-------|
| (i) | श्लोक (दो की सप्रसंग व्याख्या) | 10अंक |
| (ii) | सूक्ति-सप्रसंग अनुवाद/ व्याख्या (तीन में से एक) | 05अंक |

(ग) व्यावहारिक संस्कृत शब्दावली :

पशु, पक्षी एवं वनस्पति सम्बन्धी (15 में से 10 शब्दों की संस्कृत)

अंक-10

- | | | |
|-------------------------|-------------------------------|------------------------------|
| 1. ऊँट-उष्ट्रः | 2. खरगोश-शशकः | 3. गधा-गर्दभः, खरः |
| 4. गाय-गौः | 5. गीदड़-शृगालः | 6. गैंडा-गण्डकः |
| 7. घोड़ा-अश्वः, घोटकः | 8. चूहा - मूषकः | 9. छिपकली-ललन्तिका |
| 10. नेवला-नकुलः | 11. बन्दर-वानरः, कपिः | 12. बकरा-अजः |
| 13. बिल्ली-मार्जारी | 14. बैल-बलदः, बलीवर्दः, वृषभः | 15. भैंस-महिषी |
| 16. शेर-सिंहः | 17. हाथी-गजः, दन्ती, करी | 18. हिरन-मृगः, हरिणः, कुरंगः |
| 19. उल्लू-उलुकः, कौशिकः | 20. कबूतर-कपोतः, पारावतः | 21. कोयल-कोकिलः |

- | | | |
|-------------------------------------|-----------------------------|---------------------------|
| 22. कौवा-काकः | 23. गीध-गृधः | 24. चकवा-चक्रवाकः |
| 25. चिडिया-चटका | 26. तोता - शुकः | 27. पपीहा-चातकः |
| 28. बगला-बकः | 29. बतख-वर्तकः, वर्तिका | 30. वाज-श्येनः |
| 31. मोर-मयूरः | 32. मुर्गा-कुक्कुटः | 33. हंस-हंसः |
| 34. सारस-सारसः | 35. आंवला-आमलकी | 36. आम(वृक्ष)-आम्रः |
| 37. जामुन (वृक्ष)-जम्बूः | 38. नारियल (वृक्ष)-नारिकेलः | 39. नीम-निम्बः |
| 40. पीपल-अश्वत्थः | 41. बेल (वृक्ष)-बिल्वः | 42. गुलाब-स्थलपद्मम् |
| 43. कमल-कुवलयम्, पुण्डरीकम्, पद्मम् | 44. गेंदा-गन्धपुष्पम् | 45. चमेली-मालती |
| 46. चम्पा-चम्पकः | 47. पराग-मकरन्दः | 48. रात की रानी-रजनीगन्या |
| 49. पत्ता-पत्रम्, पर्णम् | 50. लता-व्रततिः, वीरुत् | |

(घ) निम्नलिखित अव्ययों का वाक्यों में प्रयोग

5x1=5अंक

कथम्, अद्यः, श्वः, ह्यः, परश्वः, सद्यः, पुरतः, पृष्ठतः, वामतः, दक्षिणतः, नीचैः, उच्चैः, बहिः, अन्तः

(ङ) संख्या (गणना) वाची शब्द (51 से 100 तक) पाँच शब्द

5x1=5अंक

(च) सामान्य- ज्ञान (राशि, मास, ग्रह एवं दश दिशाओं के नाम)

5अंक

(छ) शब्दरूप : गुरु, पितृ, मातृ, भवत, अस्मद्, युष्मद् (दो शब्दरूप प्रष्टव्य)

2x5=10अंक

(ज) धातुरूप : लिख, नी, दृश, भू, त्यज, स्मृ धातु (केवल लट्, लृट्, लोट्, लङ्, विधिलिङ् लकार में दो धातुरूप प्रष्टव्य)

10अंक

(झ) हिन्दी से संस्कृत में अनुवाद (10 वाक्य)

5x2=10अंक

सहायक पुस्तकें – अपरीक्षितकारकम् (विष्णुशर्मा)। नीतिशतकम् (भर्तृहरि)। शीघ्रबोध, चौखम्बा वाराणसी।

URDU (Elective)**SEMESTER - I****Essay and Composition:**

| | |
|----------------------------|---------------------------|
| Theory | : 90 marks |
| Internal Assessment | (5+3+2) : 10 marks |
| | Time : 3 Hrs |

Unit-I

| | |
|-------|----------|
| Essay | 30 marks |
|-------|----------|

Unit-II

| | |
|---------------------|----------|
| Letter/ Application | 20 marks |
|---------------------|----------|

Unit-III

| | |
|---|----------|
| Mutazad Alfaz, Mutaradif Alfaz, Wahid aur Jama, Tazkeer-o-Taanees | 20 marks |
|---|----------|

Unit-IV

| | |
|--|----------|
| Muhaware, Correction of words/ sentences | 20 marks |
|--|----------|

Books Recommended:

1. Guldasta-e- mazameen -Insha pardazi Part II by Dr. Arif Mohd. Khan, published by Educational Book House, AMU Market, Aligarh.
2. Urdu Qaedah-mae- Intekhaab Nasar-o-nazm by Dr. Haroon Ayub.

URDU (Elective)**SEMESTER - II****Prose and Poetry**

| | |
|----------------------------|---------------------------|
| Theory | : 90 marks |
| Internal Assessment | (5+3+2) : 10 marks |
| | Time : 3 Hrs |

Unit-I

Explanation of Prose Passages from : 30 marks
Urdu Zuban Hamari, Mirza Ghalib ki Seerat, Darogha ki Panchon Ghee mein, Nasooh ki Bimari.

Unit-II

Explanation of Ghazal verses from : 20 marks
Muhammed Valiullah Vali, Mir Taqi Mir, Mirza Asadullah Khan Ghalib, Faiz Ahmed Faiz,
Raghupati Sahay Firaq Gorakhpuri, Jigar Moradabadi.

Unit-III

Explanation of Nazm verses from : 20 marks
Ajanta, Taj Mahal, Kashmir, Shikast-e-zindan ka khwab, Dastan Shahzade ke ghayab hone ki,
Farzi latifa, Ek chehlum par, Clerk.

Unit-IV

Summary of poem or a lesson from prose and poetry (given in Unit I & III) 20 marks

Books Prescribed

Urdu Nisab Part II, published by Educational Book House, A.M.U. Market, Aligarh.

PERSIAN (Elective)

Note : There will be one paper in each Semester i.e. 1st and 2nd Semester of 90 marks each and Internal Assessment 10 marks each Semester for the session of 2023-24.

SEMESTER-I

Paper-A – Prose:

Time: 3 Hours
Written Paper: 90 Marks
Internal Asst. :10 Marks

Instructions to the paper setter/examiner and also the distribution of marks as follows:

- | | | |
|----|--|-----------|
| 1. | Translation of two passages into English, Urdu, Punjabi, Hindi or Persian. (Out of three question 2 have to be attempted) | Marks: 30 |
| 2. | Explanation of Hikayat or Intekhab into English, Urdu, Punjabi, Hindi or Persian. (Choice must be given) | Marks: 30 |
| 3. | Summary of any one of the Hikayat from Gulistan-e-Saadi into English, Urdu, Punjabi, Hindi or Persian. | Marks: 10 |
| 4. | Simple and direct short biographical questions on the authors. | Marks: 20 |

Books Prescribed for this Paper:

- | | |
|--|---|
| 1. Guldasta-ye-Farsi. Complete Prose section. | Hafiz Maulavi Mohd. Ayyub Khan Publisher: Ram Narayan, Beni Madhauv 2, Katra Road Ilahabad. |
|--|---|

PERSIAN (Elective)**SEMESTER-II****Paper-B – Poetry:**

Time: 3 Hours

Written Paper: 90 Marks

Internal Asst. :10 Marks

Instructions to the paper setter/examiner and also the distribution of marks as follows:

- | | | |
|----|---|-----------|
| 1. | Explanation of poems into English, Urdu, Punjabi, Hindi or Persian (Out of three poems comprising five Ashaar two have to be attempted) | Marks: 30 |
| 2. | Explanation of the theme of the poem into English, Urdu, Punjabi, Hindi or Persian. (Choice must be given) | Marks: 30 |
| 3. | Summary of any one of the poem into English, Urdu, Punjabi, Hindi or Persian. | Marks: 10 |
| 4. | Simple and direct short biographical questions on the poets. | Marks: 20 |

Only the following poems from the book Guldasta-ye-Farsi:

(1) انتخاب از سعدی

شنیدم که در وقت نزع روان
 شنیدم که درای فرخ تبار
 مشتاقی و صبوری از حد گزشت یارا

(2) غزلیات حافظ

دوش وقت سحرا از غصه نجاتم دادند
 دل می رود ز دستم صاحب دلان خدار

Books Prescribed for this Paper:

1. Guldasta-ye-Farsi.
From Hissa-ye-Nazm.

Hafiz Maulavi Mohd. Ayub Khan
 Publisher: Ram Narayan, Beni Madhauv
 2, Katra Road Allahabad.

**FRENCH (ELECTIVE) 1st SEMESTER: WRITTEN COMPREHENSION
AND EXPRESSION, GRAMMAR AND CREATIVE WRITING**

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 hours |

- | | |
|--|-------------|
| 1. Ten questions (including General and based on Civilization) pertaining to the prescribed textbook. | 20 Marks |
| 2. Comprehension of an unseen text (easier than the prescribed textbook). Ten questions to be put and answered in French. | 10 Marks |
| 3. Translation from English into French and from French into English of a passage or short sentences based on the vocabulary of the prescribed textbook. | 10+10 Marks |
| 4. Questions on applied grammar, including conjugation of verbs in applied form, Pertaining to the textbook. | 30 Marks |
| 5. Write a dialogue of 150 words on the topics covered in the syllabus. | 10 Marks |

CHOICE TO BE GIVEN IN ALL QUESTIONS

Courses of Reading

Text Book : Version Originale-1(Units 1-6) Méthode de Français/Livre de l'élève,
Fabrice Barthélémy, Christine Kleszewski, Émilie Perrichone Sylvie
Wuattier, Conseil pédagogique et révision : Christian Puren, Editions Maison
des Langues, Paris.

- (a) Livre de l'élève
- (b) Cahier d'exercices

- Note:
1. Questions on composition and unseen passage to be based on the vocabulary and grammar of the textbook covered by the students in B.A. First Semester.
 2. All questions are to be asked and answered in French (except questions on translation).

For the information of private candidates:

The theory paper would be proportionately marked out of 100 as there is no internal assessment

**FRENCH (ELECTIVE) 2nd SEMESTER: WRITTEN COMPREHENSION
AND EXPRESSION, GRAMMAR AND CREATIVE WRITING**

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 70 Marks |
| Internal Assessment | : 10 Marks |
| Viva | : 20 Marks |
| Time | : 3 hours |

- | | |
|--|----------|
| 1. Ten questions (including General and based on civilization) pertaining to the prescribed textbook. | 20 Marks |
| 2. Comprehension of an unseen text. Ten questions to be put and answered in French. | 10 Marks |
| 3. Questions on applied grammar, including conjugation of verbs in applied form pertaining to the textbook | 30 Marks |
| 4. Write an essay/composition of 150 words on any topic covered in the syllabus. | 10 Marks |

CHOICE TO BE GIVEN IN ALL QUESTIONS

Courses of Reading

Text Book : Version Originale-1 (Units 7-8) Version Originale-2 (Units 1-4)
Méthode de Français/Livre de l'élève, Fabrice Barthélémy, Christine Kleszewski, Émilie Perrichone Sylvie Wuattier, Conseil pédagogique et révision : Christian Puren, Editions Maison des Langues, Paris.

- (a) Livre de l'élève
- (b) Cahier d'exercices

- Note: 1. Questions on composition and unseen passage to be based on the vocabulary and grammar of the textbook covered by the students in B.A. FirstYear.
2. All questions are to be asked and answered in French.

| | |
|-----------------|-----------------|
| Viva: | 20 marks |
| 1. Reading: | |
| a) Seen | 05 Marks |
| b) Unseen | 05 Marks |
| 2. Conversation | 10 Marks |

For the information of private candidates:

- Viva is compulsory
- The theory paper would be proportionately marked out of 80 as there is no internal assessment.

GERMAN (Elective)**SEMESTER – I****Summary**

| | | |
|---------------------|---|------------------|
| Max. Marks | : | 100 marks(Total) |
| Paper-A (Theory) | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 hours |

Note : Use of dictionary is allowed

- I. Questions in applied grammar (including fill in the blanks) conforming to prescribed text-book "Lagune-1": Chapters 1-15 upto page 78 (5 questions) : 50 marks
- II. Questions on "Culture & Civilization" from the prescribed book text-book "Lagune-1": Chapters 1-15 upto page 78 (3 out of 4 questions to be attempted) : 20 marks
- III. Paraphrasing of a poem or stanzas out of the following poems from "German Verse" by Kulkarni & Chapekar : 20 marks
- Gefunden (Goethe)
 - Da ich ein Knabe war (Hölderlin)
 - Sehnsucht (Eichendorff)

Internal Assessment : 10 marks (Total)

- Continuous Evaluation
- Attendance

- Note:
- The mode of evaluation for Internal Assessment is to be followed as per University guidelines.
 - For private candidates, Internal Assessment will be calculated proportionately to the marks obtained by the candidate in written examination and, wherever applicable, total of both written & oral examination (e.g. in paper B)

Prescribed Textbook:

- "Lagune-1" Kursbuch by Hartmut Aufderstraße a.o: Chapters 1-15 upto page 78.
- "German Verse" by Kulkarni & Chapekar

Supplementary Book:

"Lagune-1" Arbeitsbuch by Hartmut Aufderstraße a.o: Chapters 1-15.

GERMAN (Elective)
SEMESTER –II

Summary

| | | |
|------------------------------------|---|------------------|
| Max. Marks | : | 100 marks(Total) |
| End-Semester Exam Paper-B (Theory) | : | 60 marks |
| Oral (viva-voce) Examination | : | 30 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 hours |

Note : Use of dictionary is allowed

- I. Questions in applied grammar (including fill in the blanks) conforming to prescribed text-book "Lagune-1": Chapters 16-30 (5 questions) : 30 marks
- II. Questions on "Culture & Civilization" from the prescribed book text-book "Lagune-1" : 15 marks
: Chapters 16-30 (3 out of 4 questions to be attempted)
- III. Paraphrasing of a poem or stanzas out of the following poems from "German Verse" by Kulkarni & Chapekar : 15 marks
- i. Die Lorelei (Heine)
 - ii. Sommerbild (Hebbel)
 - iii. Abendlied (Keller)

Oral (viva-voce) Examination : 30 marks (Total)

- i. Easy conversation in German
- ii. Reading of a simple unseen text and answering questions there-on.

Internal Assessment : 10 marks (Total)

- i. Continuous Evaluation
- ii. Attendance

- Note: 1. The mode of evaluation for Internal Assessment is to be followed as per University guidelines.
2. For private candidates, Internal Assessment will be calculated proportionately to the marks obtained by the candidate in written examination and, wherever applicable, total of both written & oral examination (e.g. in paper B)

Prescribed Textbook:

- i. "Lagune-1" Kursbuch by Hartmut Aufderstraße a.o: Chapters 16-30.
- ii. "German Verse" by Kulkarni & Chapekar

Supplementary book:

- i. "Lagune-1" Arbeitsbuch by Hartmut Aufderstraße a.o: Chapters 16-30.
-

RUSSIAN (Elective)**SEMESTER - I****Paper : (General Translation, Grammar, Composition and comprehension): Written**

| | | |
|-------------------------------|----------|-----------------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| (For regular students) | | |
| Maximum Time | : | 3 hrs. |

- | | | |
|----|---|-----------------|
| 1. | Translation from simple Russian into English/Hindi/Punjabi (about 120 words) | 15 Marks |
| 2. | Translation from simple English / Hindi / Punjabi into Russian (about 100 words). | 15 Marks |
| 3. | Simple applied grammar: 3 questions out of 5 (5 marks each) (Covered in Lessons 1-15, Wagner) | 15 Marks |
| 4. | Questions on prescribed texts in Russian: 3 questions out of 5 (5 marks each) (Covered in Lessons 1-15, Wagner) | 15 Marks |
| 5. | Composition (One out of three) on the following topics: 1. My family. 2. My day. 3. Our class. 4. Working day. | 15 Marks |
| 6. | Comprehension: 5 questions out of 7 (3 marks each) on the unseen texts to be reproduced in the question paper: | 15 Marks |

Note : Use of dictionaries is allowed.**Book Prescribed :**

1. V.N.Wagner : Russian, PPH, New Delhi.(Lessons 1-15)

Books recommended for additional reading

1. A. K. Maurya: ESSENTIAL RUSSIAN, University of Delhi, 2004.
2. S. Khavronina: Russian in Exercise,1978.
3. I. Pulkina : RUSSIAN A practical Grammar with Exercise. Russky Yazik. Pub. H. Moscow.
4. Dictionaries : English -Russian dictionary.
Russian -English dictionary.

**RUSSIAN (Elective)
SEMESTER - II**

Paper : (General Translation, Grammar, Composition and comprehension): Written

Max. Marks : 70
Theory : 60 marks
Internal Assessment : 10 marks
(For regular students)
Maximum Time : 3 hrs.

- | | | |
|----|--|-----------------|
| 1. | Translation from simple Russian into English/Hindi/Punjabi (about 80 words) | 10 Marks |
| 2. | Translation from simple English / Hindi / Punjabi into Russian (about 75 words). | 10 Marks |
| 3. | Simple applied grammar: 3 questions out of 5 (4 marks each) (Covered in Lessons 16-31, Wagner) | 12 Marks |
| 4. | Questions on prescribed texts in Russian: 4 questions out of 6 (2 marks each) (Covered in Lessons 16-31, Wagner) | 08 Marks |
| 5. | Composition (One out of three) on the following topics: 1. Our city. 2. Our flat. 3. An evening party. 4. Birthday. | 10 Marks |
| 6. | Comprehension: 5 questions out of 7 (2 marks each) on the unseen texts to be reproduced in the question paper: | 10 Marks |

Note : Use of dictionaries is allowed.

Book Prescribed :

1. V.N.Wagner : Russian, PPH, New Delhi. (Lessons 16-31)

Books recommended for additional reading

1. A.K.Maurya: ESSENTIAL RUSSIAN, University of Delhi, 2004.
2. S. Khavronina: Russian in Exercise,1978.
3. I. Pulkina : RUSSIAN A practical Grammar with Exercise. Russky Yazik. Pub. H. Moscow.
4. Dictionaries: English -Russian dictionary.
Russian -English dictionary.

Oral/ Practical

Maximum Marks: 30

Reading of text(s) and conversation in simple Russian.

1. V.N.Wagner : Russian, PPH, New Delhi. (Lessons 6-31)
-

SUBJECT :**ARABIC (Elective)****BENGALI (Elective)****TAMIL (Elective)****TELUGU (Elective)****KANNADA (Elective)****MALAYALAM (Elective)**

The above Syllabus for B.A.(GENERAL)
FIRST YEAR (SEMESTER SYSTEM) SYLLABUS has been
KEPT IN ABEYANCE

PHYSICAL EDUCATION**SEMESTER-I****THEORY :**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 65 |
| Theory | : | 60 marks |
| Internal Assessment | : | 05 marks |
| Time | : | 3 Hrs. |

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS :

- There shall be nine questions in all, spread over Five Units.
- First question/Unit is compulsory. It will contain six short answer type questions, spread over the whole syllabus to be answered in brief. It will carry 12 marks, i.e two marks each question.
- Rest of the paper shall contain four Units for descriptive questions. Each Unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each Unit.
- All questions/Units will carry equal marks.
- Private candidates and the students of the Centre for Distance and Online Education (CDOE) are not allowed to take this subject.
- The University paper shall be set in three languages i.e., English, Punjabi and Hindi.

UNIT-I

12 Marks

Entire syllabus given in the Units II to V will be covered to set six short answer type questions in first question/Unit of the question paper which is compulsory.

UNIT-II

12 Marks

Education :

- Meaning and concept of Education

Physical Education :

- Meaning and definition of Physical Education, its aim and objectives.
- Need and importance of Physical Education in the Modern Society and its relationship with other subjects.

History of Physical Education :

- Pre and Post Independence Development of Physical Education in India.

UNIT-III

12 Marks

Olympic Games, Asian Games & Common Wealth Games :

- Ancient Olympic Games.
- Modern Olympic Games.
- Asian Games; and
- Common Wealth Games.

UNIT-IV

12 Marks

Sports Schemes, National Institutions of Sports and National and International Governing Bodies of Olympic Games :

- Raj Kumari Amrit Kaur Coaching Scheme.
- Netaji Subash National Institute of Sports, Patiala (NSNIS, Patiala).
- Sports Authority of India (SAI).
- Indian Olympic Association (IOA).
- International Olympic Committee (IOC).

UNIT-V

12 Marks

Basics of Handball :

- History of the game.
- Basic fundamentals.
- Equipment and specifications.
- Marking/layout of court.
- Rules and regulations (number of players, duration of game, number of officials required and general rules of play).
- Major tournaments and Arjuna Awardees of the game.

References :

1. Barrow, H. M. (1983) : *“Man and Movements : Principles of Physical Education”*, Philadelphia, Lea and Febiger.
2. Brar, R.S. Walia, R., Gill, M., Kanwar, S., Kalta, S., & Thapa, A.S. (2011) : *“Fundamentals of physical education”* Kalyani Publisher, Ludhiana, Punjab.
3. Bucher, C. A. (1979) : *“Foundations of Physical Education,”* St. Louis C.V. Mosby Company.
4. Chauhan, S.S. (1985) : *“Advanced Educational Psychology”*, New Print-India Pvt. Ltd., Sahibabad, U.P.
5. Khan, E. A. (1964) : *“History of Physical Education,”* Scientific Book Company.

6. Murti K. & Ram, P. N. (1990) : *“Educational Dimensions of Physical Education”*, 2nd Revised Edition, Print India, New Delhi.
7. Moslon (1976) : *“The Olympian”*, Olympic House, Canada.
8. Puni, A.T. (1980) : *“Sports Psychology”*, An abridged Translated by G.S.Sandhu, NIS, Patiala.
9. Sharma, P.D. (1996) : *“Olympics : Athens to Atlanta, 1896-1996”*, Friends Publications (India) Delhi.
10. Sheldon, W.H. (1940) : *“The Varieties of Human Physique”*, New York, Harper and Row Publishers.
11. Singh, Ajmer et al (2000) : *“Modern Text Book of Physical Education, Health and Sports”*, Kalyani Publishers, Ludhiana.
12. Skinner, C. E. (1964) : *“Educational Psychology”*, 4th edition, Prentice Hall of India Pvt. Ltd.
13. Narayanan T. C. and Hariharan S. (1975) : *“An Analytical History of Physical Education”*, South India Press, Karaikudi.

PRACTICAL

| | |
|---------------------|------|
| Max. Marks | : 35 |
| Practical | : 30 |
| Internal Assessment | : 05 |

ATHLETICS**Sprints (Types of Start and Finish) :**

- Crouch start-fixing of starting blocks, getting in and off the block, emphasizing on body position, need of starting blocks in a sprint race.
- Practice of starts with starting blocks using proper commands.
- Training the students for correct running style.
- Practice of Finishing the sprint with different techniques.
- Rules and Regulations of Sprint races.

Middle Distance, Long Distance and Walking Events :

- Marking of standard tracks, width of lanes and starting points for various races.
- Practical of Standing Start.
- Correct running and walking style, emphasis on proper body position and foot placement.
- Running tactics.
- Rules of competition.

Physical Fitness Tests : More emphasis shall be given on general physical fitness and principles of physical exercises (Speed and agility).

Test 1 SPEED : 50 mts dash test.

Test 2 AGILITY : Shuttle run test.

Division of Practical Marks :

Marks for each activity shall be divided as under :

Athletics 15 marks, participation and achievement in Athletics 5 marks, Physical fitness 5 marks, viva voce 5 marks and internal assessment 5 marks based on overall performance of a student during the current academic session which will be assessed by the teacher concerned.

- Note :*
1. Polevault, Hammer Throw Hurdles, Relay Races and steeple chase men are not included in the practical syllabus/course due to the fact that these events are highly technical. Moreover, in the absence of proper facilities required for the events mentioned above may prove to be injurious/fatal to the students.
 2. 12 periods per week (6 periods for theory and 6 periods for practicals) shall be allotted to a Teacher /class for each semester.
 3. The theory and practical class shall consist of 60-80 students and 30-40 students respectively.
 4. The theory (Paper) shall consist of 65 marks and practical paper shall consist of 35 marks in each semester.
 5. A student shall be given a project work related with athletics.

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PHYSICAL EDUCATION

SEMESTER-II

THEORY

| | | |
|---------------------|---|----------|
| Max. Marks | : | 65 |
| Theory | : | 60 marks |
| Internal Assessment | : | 05 marks |
| Time | : | 3 Hrs. |

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS :

- (a) There shall be nine questions in all, spread over Five Units.
- (b) First question/Unit is **compulsory**. It will contain six short answer type questions, spread over the whole syllabus to be answered in brief. It will carry 12 marks i.e., two marks each question.
- (c) Rest of the paper shall contain four Units for descriptive questions. Each Unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each Unit.
- (d) All questions/Units will carry equal marks.
- (e) Private candidates and the students of the Centre for Distance and Online Education (CDOE) are not allowed to take this subject.
- (f) The University paper shall be set in three languages i.e., English, Punjabi and Hindi.

UNIT-I

12 Marks

Entire syllabus given in the Units II to V will be covered to set six short answer type questions in first question/Unit of the question paper which is compulsory.

UNIT-II

12 Marks

Cell:

- Meaning and definition of Anatomy & Physiology, Structure and Functions of a cell.

Skeletal System :

- Meaning and functions of skeletal system.
- Types of Bones and names of various bones of the body.

Muscular System :

- Introduction of Muscular system, structure and function of muscular system.
- Effect of short and long duration physical Exercise on the muscular system.

UNIT-III

12 Marks

Warming up, Cooling down and Physical Fitness :

- Warming up and cooling down in sports and its significance
- Meaning, definition and components of Physical Fitness.
- Influence of age, sex, body composition, diet, climate, exercise and training on Physical Fitness.

Kho-kho:

- History of the game
- Basic fundamentals
- Equipment and specifications
- Marking/layout of court
- Rules and regulations (number of players, duration of game, number of officials required and general rules of play); and
- Major tournaments and Arjuna Awardees of the game

UNIT-IV

12 Marks

Health & Health Education :

- Meaning and definition of health.
- Meaning, definition, objectives, scope, principles and importance of Health Education.
- Personal hygiene, its meaning and importance.

First Aid :

- Meaning and importance of First Aid in Physical Education and Sports with special reference to Drowning, Dislocation of a joint, Fracture of bone, Sprain and Strain.

UNIT-V

12 Marks

Biological Basis of Physical Education :

- Growth and Development, Differences between growth and development.
- Factors affecting growth and development.
- Heredity and Environment and its effects on Growth and Development.
- Various stages of growth and development.

References :

1. Brar, R.S. Walia, R., Gill, M., Kanwar, S., Kalta, S., & Thapa, A.S. (2011) : *Fundamentals of Physical Education* Kalyani Publisher, Ludhiana Punjab.
2. Chaurasia, B.D. (1981) : *"Handbook of General Anatomy"*, CBS Publishers and Distributors, First Edition.
3. Dandiya, P.C., Jafer, Z., Y.K. & Afifa J. (1996) : *"Health Education and Community Pharmacy"*, Vallabh Prakashan, Pitampura, New Delhi.
4. Marley, W.P. (1982) : *"Health and Physical Fitness"*, CBS College Publishing.
5. Mathews, D.K. and Fox, E.L. (1976) : *"The Physiological Basis of Physical Education & Athletics"*, Second Edition, W.B. Saunders Co., Philadelphia.
6. Park, J.E. & Park, K. (1985) : *"Text Book of Preventive and Social Medicine"*, 10th Edition, Banarasi Dass Bhanot, Jabalpur, India.
7. Rose & Wilson (1981) : *"Foundations of Anatomy and Physiology"*, 5th Edition.
8. Sampath, K. & Maheshwar : *"Human Anatomy & Physiology"*, First Edition, Birla Publications, B.U. (1999) Delhi.
9. Dinshaw, S.F. (1997) : *Fighting fit for ever*. The Marine Sports Publishing Division, Bombay.
10. Shaphard, R.J. (1978) : *"The Fit Athlete"*, Oxford University Press.
11. Larry, S.G. (1982) : *Essential of exercise physiology*. Surjeet Publications, Delhi, First Indian Print.
12. Singh, Ajmer et. al. (2000) : *Modern text book of physical education, health and sports*, Kalyani Publishers, Ludhiana.
13. Wilmore, J. H. (1997) : *"Athletic Training and Physical Fitness"*, Allyn and Bacon, Inc., 470, Atlantic Avenue, Boston, Massachusetts.

PRACTICAL

| | | |
|---------------------|---|----------|
| Max. Marks | : | 35 |
| Practical | : | 30 marks |
| Internal Assessment | : | 05 marks |

Games :

Note : Volleyball or Kabaddi (NS) and any one game of the choice of the student (other than the two) which should be confined to the list of games approved by the Association of Indian Universities.

Volleyball

- Measurements (volleyball court, net, poles, antenna and ball).
- Number and position of players and officials.
- Types of service (under arm service, side arm service and tennis service).
- Types of passes (under hand and over head pass).
- Rules of the game.

OR**Kabaddi (NS)**

- Measurements (Kabaddi court for men and women).
- Number of players and officials.
- Fundamental offensive skills, touching with hand, leg thrust, front kick, side kick, Mule kick, jump and dive counter.
- Defensive Skill (wrist catch, normal grip, ankle catch, knee catch and chain formation).
- Tactics : (a) getting bonus point (b) counter to bonus line crossing (c) Delaying tactics for getting lona.

Physical Fitness Tests : More emphasis shall be given on general physical fitness and principles of physical exercises (Speed and agility).

Test 1 SPEED : 50 mts dash test.

Test 2 AGILITY : Shuttle run test.

Division of Practical Marks :

Marks for each activity shall be divided as under : Games 15 marks, participation and achievement in sports/games 5 marks, Physical fitness 5 marks, viva voce 5 marks and internal assessment 5 marks based on overall performance of a student during the current academic session which will be assessed by the teacher concerned.

- Note :**
- The choice of games by the students shall be confined to the list of games approved by the Association of Indian Universities.
 - 12 periods per week (6 periods for theory and 6 periods for practicals) shall be allotted to a Teacher/class semester.
 - The theory and practical class shall consist of 60-80 students and 30-40 students respectively.
 - The theory (Paper) shall consist of 65 marks and practical paper shall consist of 35 marks in each semester.
 - A student shall be given a project work related with athletics.

EDUCATION SEMESTER – I

PAPER : EDUCATION AND SOCIETY

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

GENERAL INSTRUCTIONS FOR THE PAPER-SETTER :

The question paper will consist of five Units : I, II, III, IV and V. Units I, II, III and IV will have two questions from the respective Units of the syllabus and will carry 18 marks each. Unit V will consist of **eight** short answer type questions which will cover the entire syllabus uniformly and will carry 18 marks in all. Each short question will carry 3 marks.

GENERAL INSTRUCTIONS FOR THE CANDIDATE :

The students will be required to attempt one question each from Units I, II, III and IV. The students are required to attempt **6** short questions out of **8** in Unit V which will be **compulsory**. The question paper should preferably carry internal division of marks for all the sub-questions of one main question. Preferably set the words limit (300-350 words for Units I, II, III, IV and; 75 words for each short answer type question in Unit V) for answer.

Objectives :

To enable the students to understand :

1. The Meaning, Nature and Scope of Education along with its types.
2. Functions of Education in light of its aims.
3. Role of Education viz-a-viz present day needs.

Course Contents :

- UNIT-I** : (a) Meaning and Nature of Education : Education as a Socio-Political Process and Developmental Process.
(b) Informal, Formal and Non-Formal Education.
- UNIT-II** : (a) Aims of Education – Individual, Social, Vocational and Democratic.
(b) Functions of Education – Individual Development, Transmission of Cultural Heritage and Education for Social Change.
- UNIT-III** : (a) Education for Democratic Citizenship.
(b) National Integration and International Understanding.
- UNIT-IV** : (a) Value Education –Meaning of Values, their Development
(b) Transactional Strategies.

Books Recommended :

1. Bhatia, K.K. and Narang, C.L. : *Teacher and Education in Emerging Indian Society*, Tandon Publishers, Ludhiana, 2002.
2. Bhatia, K.K. and Sharma, S. : *Bhartiya Shiksha Ki Adhunik Samasyaein*, Parkash et al Bros., Ludhiana, 1986.
3. Bhatnagar, Suresh : *Kothari Commission Recommendations and Evaluation with a Text on National Policy on Education*, Loyal Book Depot, Meerut, 1982.
4. Govt. of India : *National Policy on Education*, Ministry of Human Resource Development, New Delhi, 1986.
5. Govt. of India, Ministry of Education : *Report of Education Commission (1964-66)—Education and National Development*.
6. Govt. of India, Ministry of Education : *Report of Secondary Education Commission (1952-53)*, New Delhi.
7. Gupta, S.P. : *Sikhya de Sidhant ate Takneekan*, Hans Book Depot, Faridkot, 1989.
8. Kansal, M.R. : *Sikhya de Sidhant*, Punjab State University Text Book Board, Chandigarh.
9. Mathur, S. S. : *Shiksha Sidhant*, Vinod Pustak Mandir, Agra, 1981.
10. Sharma, T.R. : *Sikhya de Sidhant*, Punjabi University, Patiala.
11. Safaya, R.N. : *Principles and Techniques of Education*, Dhanpat Rai & Sons, Jalandhar.
12. Yadav, H. S. et al : *Adhunik Bhartiya Smaj Mein Shiksha*, Tandon Publishers, Ludhiana, 1995.
13. Yadav & Yadav : *Education in the Emerging Indian Society*, Tandon Publications, Ludhiana.

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EDUCATION SEMESTER – II

PAPER : EDUCATION AND HUMAN DEVELOPMENT

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |

GENERAL INSTRUCTIONS FOR THE PAPER-SETTER :

The question paper will consist of five Units : I, II, III, IV and V. Units I, II, III and IV will have two questions from the respective Units of the syllabus and will carry 18 marks each. Unit V will consist of **eight** short answer type questions which will cover the entire syllabus uniformly and will carry 18 marks in all. Each short question will carry 3 marks.

INSTRUCTIONS FOR THE CANDIDATE :

The students will be required to attempt one question each from Units I, II, III and IV. The students are required to attempt **6** short questions out of **8** in Unit V which will be **compulsory**. The question paper should preferably carry internal division of marks for all the sub-questions of one main question. Preferably set the words limit (300-350 words for Units I, II, III, IV; and 75 words for each short answer type question in Unit V) for answer.

Objectives :

To make the students understand :

1. The meaning, scope and uses of psychology in education.
2. Human growth and development upto the stage of childhood.
3. Meaning, purpose of learning and factors influencing learning.
4. The concept of intelligence - its meaning and measurements.
5. Causes and significance of individual differences.

Course Contents :

- UNIT-I** : (a) *Educational Psychology* : Meaning, Nature and Scope.
(b) Individual Differences – Causes, Significance and Educational Implications.
- UNIT-II** : (a) Nature of Human Growth and Development – Physical, Mental, Emotional and Social.
(b) *Stages of Human Development* : Infancy and Childhood, their Needs, Significance and Problems.
- UNIT-III** : (a) *Learning* : Meaning and Definition.
(b) Theories of Learning - Trial and Error by Thorndike and Classical Conditioning by Pavlov.
- UNIT-IV** : (a) *Intelligence* : Meaning, Types
(b) Measurement of Intelligence.

Books Recommended :

1. Aggarwal, J.C. : *Essentials of Educational Psychology*, Vikas Publishing House, Private Ltd., New Delhi, 1995.
 2. Bhatia, H.R. : *A Textbook of Educational Psychology*, Asia Publishing House, New Delhi, 1977.
 3. Bhatnagar, S. : *Shiksha Manovigyan*, International Publishing House, Meerut, 1977.
 4. Dhingra, R. : *Educational Psychology and Guidance*, Punjab Katab Ghar, Jalandhar.
 5. Kagan, J. and Lang, C. : *Psychology and Education*, Harcourt Brace Jovanovich, Inc., New York, 1978.
 6. Kundu, D. : *Modern Educational Psychology*, Sterling Publishers (P.) Ltd., New Delhi, 1974.
 7. Kuppuswamy, B. : *Advanced Educational Psychology*, Sterling Publishers (P.) Ltd., New Delhi, 1994.
 8. Mangal, S.K. : *Advanced Educational Psychology*, Prentice Hall of India Ltd., New Delhi, 2002.
 9. Mathur, S.S. : *Educational Psychology*, Vinod Pustak Mandir, Agra, 1998.
 10. Sandhu, I.K. and Kaur, A. : *Shikhya Manovigyan*, Punjabi University, Patiala, 1976.
 11. Walia, J. S. : *Foundations of Educational Psychology*, Paul Publishers, Jalandhar, 2001.
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ADULT EDUCATION

SEMESTER-I

| | |
|----------------------------|-------------------|
| Max Marks | : 100 |
| Theory | : 45 Marks |
| Internal Assessment | : 05 Marks |
| Practical | : 45 Marks |
| Internal Assessment | : 05 Marks |
| Time | : 03 Hours |

GENERAL INSTRUCTIONS FOR THE PAPER SETTER.

The question paper will consist of five Units: I, II, III, IV & V. Units I, II, III and IV will have two questions from the respective Units of the syllabus and will carry 9 marks each. Unit V will consist of 6 short answer type questions which will cover the entire syllabus uniformly and will carry 9 marks in all. Each short question will carry 1½ marks comprising 6 questions.

GENERAL INSTRUCTIONS FOR THE CANDIDATE.

The students will be required to attempt one question each from Units I, II, III and IV. The students are required to attempt 6 short questions out of 8 in Unit V which will be **compulsory**. The question paper should preferably carry internal division of marks for all the sub-questions of one main question.

OBJECTIVES OF THE COURSE:

The main objectives of the paper are;

1. To introduce students with meaning, scope and components of adult education.
2. To provide an overview of history of adult education.
3. To equip students with objectives, strategies and implementation of National Literacy Mission's Programs.
4. To acquaint students with structuring of teaching- learning environment for an adult learner.
5. To explain to students the various forms of Adult Education.

THEORY:

Unit-I

- *Adult Education*: Concept, Meaning, Brief History during Post-Independence Period.
- *Village Level Planning Committees*: Structural Organisation, Functions, Preparation of Annual Plans, Recent Development.

Unit-II

- Scope and Components of Adult Education i.e. Literacy, Numeracy, Awareness and Functionality.
- *Post Literacy & Follow up*: Objectives, Scope and Strategies.

Unit-III

- *National Literacy Mission*: Objectives, Strategies and Implementation.
- *Sarv Siksha Abhiyaan*: Objectives, Implementation and Strategies.

Unit-IV

- *Sakshar Bhart Mission*: Objectives, Strategies and Implementation.
- *Life Long Learning*: Meaning, Concept and Importance.

Books Recommended:

1. Datta, S.C. : Adult Education in India, Indian Adult Education Association, New Delhi, 1986.
2. Directorate of Adult Education : The National Adult Education Programme, 1978.
3. Directorate of Adult Education, Ministry of Education, Govt. of India. : Training of Adult Education Functionaries I-4, D.A.E., 1980
4. Directorate of Adult Education : Fifty years of Adult Education in India.
5. Dept. of Education, Ministry of Human Resource Development Govt. of India : National Literacy Mission, 1988.
6. Kundu, C.L. : Adult Education : Principles, Practices and Prospects sterling Publishers, Delhi, 1984.
7. Mali, M.G. : Adult Education in India, Deep and Deep Publication, New Delhi, 1984.
8. Mathur, B.M. : Adult Education & Social Change, The Associated Publishers, Ambala Cantt., 1989.
9. Pangotra, N.N. : Adult Education & Social Change, The Associated Publishers, Ambala Cantt., 1989.
10. Sharma, I.P. : Adult Education in India, National Book Organization, 1985
11. Singh, Sohan : History of Adult Education, The Indian Adult Education Association, New Delhi, 1957.
12. Styler, W.E. : Adult Education in India, Oxford University Press, 1986.
13. Yadav, R.S. : Adult Education Training & Productivity. The Indian publications, Ambala Cantt., 1991.
14. N. Markandan : Village Planning Committee Origin and Evolution, Gandhigram Rural Institute (Deemed University, Gandhigram, Tamil Nadu, 1986.
15. R.Rengasamy : A Hand Book on Post Literacy and Follow up Madurai Kamaraj University, Madurai-625002, 1985.
16. J.C. Saxena : Role of Adult Education and Mass Media for Civic Education
J.L. Sachdeva : Indian Adult Education Association, New Delhi, 1986
17. S.R.Ranganathan : Literature for Neo-Literates,
Indian Adult Education Association, New Delhi, 1966
18. S.R. Ranganathan : Human Values in Adult Education, Indian Adult Education
N.D. Godbole : Association, R.M. Chetsingh Delhi, 1958.
Kesari Hanuman

19. S.C. Dutta & H.J. Fischer : Training of Adult Educators, Shakuntala Publishing House, Bombay-1972.
20. R.Rangasamy & S. Raju : Teaching AIDS for Adult Education, Madurai Kamaraj University
21. S. Mohanty : Lifelong and Adult Education, APH Publishing Corporation, Ansari Road, Darya Ganj, New Delhi, 2007
22. S.Sohan Singh Meher C. Nanavatty Mrs. Welthy Fisher S.C. Dutta : Adult Education in Community Development- Indian Adult Education Association, 30, Faiz Bazar, Delhi, 1956.
23. Arvinda Chandra & Anupama Shah : Non-Formal Education For All, Sterling Publishers Pvt. Ltd. Delhi, 1987
24. R.P. Singh : Non-Formal Education- An Alternative Approach, Sterling Publishers Pvt. Ltd., Delhi, 1987
25. J.L. Sachdeva & Asha Vohra : Non-Formal Adult Education for Women, Indian Adult Education Association, New Delhi, 1985
26. S.R. Mohsini J.L. Sachdeva Asha Sehgal : Towards A Comprehensive Adult Education programme Indian Adult Edu. Association, New Delhi, 1983.
27. Avabai B. Wadia : Population Education for the Younger Generation- Family Planning Association of India, Bombay, 1968
28. J.K. Friesen S.C. Dutta : University Adult Education- Indian Adult Education Association, New Delhi, 1985
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ADULT EDUCATION

SEMESTER-II

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 45 marks |
| Internal Assessment | : 05 marks |
| Practical | : 45 marks |
| Internal Assessment | : 05 marks |
| Time | : 3 Hours |

- UNIT-I :** 1. Structuring Teaching Learning Environment for Adult Learners: Identification of Areas.
 2. Survey of the Community, Identification of Learners.
 3. Human Values in Adult Education.
 4. Meaning of Human Values, Aspects of Human Values ; Emotional, Intellectual , Spiritual and their Development.
- UNIT-II:** 1. Campaign for enrolment of Adult Learning, enrolment of the learners and day-to- day functioning of Adult Education Centre, Involvement of Community & Developmental Agencies.
 2. Development of Material for Post Literary and Follow up.
- UNIT-III :** 1. Various forms of Adult Education i.e. Social Education, Social Education as Remedial Education for Removing Tensions, for strengthening Social Consciousness, for Expanding Mental Horizons and Family Life Education.
 2. Vocational Skill Development for Adults.
- UNIT-IV:** 1. Basic Education and Life Long Education.
 2. Impact of ICTs on Life Long Education, Integrated approaches to Life Long Education.

PRACTICAL/FILED WORK :

Participation of the students in the following and preparation of Project Report:

1. Preparation of profile of the area.
2. Organization of Adult Education Centres for Basic Literacy Development.

The break up of 50 marks allotted to practical is as under:

| | <u>External</u> | <u>Internal</u> |
|---|-----------------|-----------------|
| (i) Viva-Voce | 15 marks | |
| (ii) Written questions based on the Project | 10 marks | 5 |
| (iii) Project Report | 20 marks } | |

The Project Report must be submitted 15 days in advance from the date/s of practical examination, to the Principal of the concerned College/Institution.

Books Recommended:

1. Datta, S.C. : Adult Education in India, Indian Adult Education Association, New Delhi, 1986.
2. Directorate of Adult Education : The National Adult Education Programme, 1978.

3. Directorate of Adult Education, Ministry of Education, Govt. of India. : Training of Adult Education Functionaries I-4, D.A.E., 1980
4. Directorate of Adult Education : Fifty years of Adult Education in India.
5. Dept. of Education, Ministry of Human Resource Development Govt. of India : National Literacy Mission, 1988.
6. Kundu, C.L. : Adult Education : Principles, Practices and Prospects sterling Publishers, Delhi, 1984.
7. Mali, M.G. : Adult Education in India, Deep and Deep Publication, New Delhi, 1984.
8. Mathur, B.M. : Adult Education & Social Change, The Associated Publishers, Ambala Cantt., 1989.
9. Pangotra, N.N. : Adult Education & Social Change, The Associated Publishers, Ambala Cantt., 1989.
10. Sharma, I.P. : Adult Education in India, National Book Organization, 1985
11. Singh, Sohan : History of Adult Education, The Indian Adult Education Association, New Delhi, 1957.
12. Styler, W.E. : Adult Education in India, Oxford University Press, 1986.
13. Yadav, R.S. : Adult Education Training & Productivity. The Indian publications, Ambala Cantt., 1991.
14. N. Markandan : Village Planning Committee Origin and Evolution, Gandhigram Rural Institute (Deemed University, Gandhigram, Tamil Nadu, 1986.
15. R.Rengasamy : A Hand Book on Post Literacy and Follow up Madurai Kamaraj University, Madurai-625002, 1985.
16. J.C. Saxena : Role of Adult Education and Mass Media for Civic Education
J.L. Sachdeva Indian Adult Education Association, New Delhi, 1986
17. S.R.Ranganathan : Literature for Neo-Literates,
Indian Adult Education Association, New Delhi, 1966
18. S.R. Ranganathan : Human Values in Adult Education, Indian Adult Education
N.D. Godbole Association, R.M. Chetsingh Delhi, 1958.
Kesari Hanuman
19. S.C. Dutta & : Training of Adult Educators, Shakuntala Publishing House,
H.J. Fischer Bombay-1972.
20. R.Rangasamy & : Teaching AIDS for Adult Education, Madurai Kamaraj
S. Raju University

21. S. Mohanty : Lifelong and Adult Education, APH Publishing Corporation, Ansari Road, Darya Ganj, New Delhi, 2007
22. S.Sohan Singh : Adult Education in Community Development- Indian Adult
Meher C. Nanavatty Education Association, 30, Faiz Bazar, Delhi, 1956.
Mrs. Welthy Fisher
S.C. Dutta
23. Arvinda Chandra : Non-Formal Education For All, Sterling Publishers Pvt. Ltd.
& Anupama Shah Delhi, 1987
24. R.P. Singh : Non-Formal Education- An Alternative Approach, Sterling
Publishers Pvt. Ltd., Delhi, 1987
25. J.L. Sachdeva : Non-Formal Adult Education for Women, Indian Adult
& Asha Vohra Education Association, New Delhi, 1985
26. S.R. Mohsini : Towards A Comprehensive Adult Education programme
J.L. Sachdeva Indian Adult Edu. Association, New Delhi, 1983.
Asha Sehgal
27. Avabai B. Wadia : Population Education for the Younger Generation- Family
Planning Association of India, Bombay, 1968
28. J.K. Friesen : University Adult Education- Indian Adult Education
S.C. Dutta Association, New Delhi, 1985
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MUSIC (Vocal)

SEMESTER – I

GENERAL INSTRUCTIONS :

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto 10 students in one section of Practical Class.
3. There should not be more than eight students in a batch for practical examination.
4. Harmonium will not be allowed as accompaniment in vocal music, but harmonium can be used while singing Alankars.
5. **While sending the syllabus to paper setter in theory, the syllabus prescribed for the practical paper should also be sent.**
6. The candidate can take vocal music along with Instrumental Music/Tabla
7. The candidate can also take Instrumental music along with Tabla/Vocal. Music.
8. In all, *nine* questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting by one question from each Unit. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 question of 01 marks each.**

| | |
|--|-------------------------|
| THEORY (3 Hours duration) | 45 Marks |
| PRACTICAL (20 minute's duration) | 45 Marks |
| (i) Choice & Viva | : 35 Marks |
| (ii) Harmonium | : 05 Marks |
| (iii) Tabla | : 05 Marks |
| Internal Assessment (Theory + Practical) (05+05) | 10 Marks |
| Total : | <u>100 Marks</u> |

THEORY

Unit-I

1. Bhatkhande Notation System in Modern Period.
2. Elementary knowledge of Raga
3. Different Jaties of Ragas of *the Present Raga System* of North Indian Music

Unit-II

1. Elementary knowledge of the following Musical terms (not more than 100 words):
Shruti, Swara (Shudh & Vikrit), Saptak, Alankar
2. Life sketch and contribution of Pandit V.N. Bhatkhande.
3. Sangeet: (Definition and Importance)

Unit-III

1. Brief description of Tanpura
2. Brief description of Tabla..
3. Definitions and types of Khayal.

Unit-IV

1. Notation & b r i e f d description of Ragas prescribed in the course with Alap and Taans:- Alhaiya Bilawal, Bhoopali
2. Notation & Description of Talas prescribed in the course:- Teentala, Dadra (Single & Double)

NOTE :- Both the questions from this part must contain one notation of Raga alongwith the notation of Talas.

Unit-V

1. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.

PRACTICAL

1. One Drut Khayal in each of the following Ragas with Alaps and Tanas: - Alhaiya Bilawal, Bhopali
2. One Sargamgeet in any of the prescribed ragas
3. Ability to play Dadra Tala on Tabla
4. Ability to recite bols of the tala prescribed in the course in Thah and Dugun by hand:-Teen tala, Dadra
5. Ability to play on Harmonium at least three alankaras based on Shudh and Vikrit swaras and sing alongwith it.
6. Ability to sing national Anthem

Books Recommended:

1. Sangeet Bodh : Paranjpe, Shartchandra Shridhar.
 2. Sangeet Shastra Vigyan : Panna Lal Madan.
 3. Sangeet Kala ka Itihas : Panna Lal Madan
 4. Sangeet Sar Part (I) : Mrs. Veena Mankaran
 5. Raga Vigyan, Part I to IV : Pt. V.N. Patwardhan.
 6. Hamare Sangeet Ratan : Sangeet Karayalaya, Hathras.
 7. Sangeetanjali Part I to IV : Pt. Onkar Nath Thakur.
 8. Kramik Pustak Mallika Part I to III : Pt. V.N. Bhatkhande.
 9. Raag Parichay Part I,II,III : Sh. H.C. Srivastav.
 10. Sangeet Kaumudi Part II : V.S. Nigam.
 11. Sangeet Shastra Darpan Part II : Shanti Goverdhan.
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MUSIC (Vocal)

SEMESTER-II

GENERAL INSTRUCTIONS :

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto 10 students in one section of Practical Class.
3. There should not be more than eight students in a batch for practical examination.
4. Harmonium will not be allowed as accompaniment in vocal music, but harmonium can be used while singing Alankars.
5. **While sending the syllabus to paper setter in theory, the syllabus prescribed for the practical paper should also be sent.**
6. The candidate can take vocal music along with Instrumental Music/Tabla
7. The candidate can also take Instrumental music along with Tabla/Vocal. Music
8. In all, *nine* questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting by one question from each Unit. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 question of 01 marks each.**

THEORY (3 Hours duration) 45 Marks

PRACTICAL (20 minutes duration) 45 Marks

- | | | |
|-------------------|---|----------|
| (i) Choice & Viva | : | 35 Marks |
| (ii) Harmonium | : | 05 Marks |
| (iii) Tabla | : | 05 Marks |

Internal Assessment (Theory + Practical) (05 + 05) : 10 Marks

THEORY

Unit-I

1. Knowledge of Bhatkhande Thaat Paddhati
2. Study of Naad
3. Various developments (in brief) in the History of North Indian Music of Modern Period.

Unit-II

1. Elementary knowledge of the following Musical terms (not more than 100 words):
Matra, Avartan, Sam, Tali, Khali, Vibhag, Aroh, Avaroh
2. Elementary knowledge of the Gun Dosh of Gayak

Unit-III

1. Elementary knowledge of the Laya & Taal in Music
2. Brief life sketch and contributions of : Pt. Vishnu Digambar Paluskar.

Unit-IV

Notation and Description of the prescribed Ragas and Talas :-

1. To write one drut khyal in each of the following ragas:- Yaman, Kafi with Alap and Taans
2. To write one bada khyal in any raga of the syllabus with Alap and Taans
3. To write the notation of Talas:- Ektal, Kehrwaa.
4. To write the description of ragas of the syllabus

NOTE:- Both the questions from this part must contain one notation of Raga alongwith the notation of Tala.

Unit-V

1. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.**

PRACTICAL

1. One Drut Khayal in each of the following Ragas with Alaps and Tanas : -Yaman, Kafi
2. One Vilambit Khayal in any of the prescribed Ragas.
3. Ability to play Teen Tala on Tabla
4. Ability to recite bols of the talas prescribed in the course in Thah and Dugun by hand:- Ek tal, Kehrwaa
5. Ability to play on Harmonium at least three alankaras based on Shudh and Vikrit swars and sing along with it.

Books Recommended:

1. *Sangeet Bodh* : Paranjpe, Shartchandra Shridhar.
 2. *Sangeet Shastra Vigyan* : Panna Lal Madan
 3. *Sangeet Kala ka Itihas* : Panna Lal Madan
 4. *Sangeet Sar Part (I)* : Mrs. Veena Mankaran.
 5. *Raga Vigyan, Part I to IV* : Pt. V.N. Patwardhan.
 6. *Hamare Sangeet Ratan* : Sangeet Karayalaya, Hathras.
 7. *Sangeetanjali Part I to IV* : Pt. Onkar Nath Thakur.
 8. *Kramik Pustak Mallika Part I to III* : Pt. V.N. Bhatkhande.
 9. *Raag Parichay Part I,II,III* : Sh. H.C. Srivastav.
 10. *Sangeet Kaumudi Part II* : V.S. Nigam.
 11. *Sangeet Shastra Darpan Part II* : Shanti Goverdhan.
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MUSIC (Instrumental)

SEMESTER-I

GENERAL INSTRUCTIONS :-

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto 10 students in one section in Practical Class.
3. **There should not be more than eight students in a batch for practical examination.**
4. Harmonium can be used while singing Alankars.
5. In all, *nine* questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting by one question from each Unit. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 question of 01 marks each.**
6. In Instrumental Music, the candidates have the option to take any one of the following instruments: Sitar, Sarangi, Veena, Sarod, Dilruba, Violin, Guitar, Bansuri, Shahnai, Santoor.
7. **While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.**
8. The candidate can take vocal music or Tabla along with instrumental music.

THEORY (3 Hours duration) 45 Marks

PRACTICAL (20 minutes duration) 45 Marks

(i) Viva : 35 Marks

(ii) Harmonium : 05 Marks

(iii) Tabla : 05 Marks

Internal Assessment (Theory + Practical) (05 + 05) : 10 Marks

THEORY**Unit – I**

1. Elementary knowledge of Raga
2. Sangeet (Definition & importance)
3. Different Jaties of Ragas of the Present Raga System of North Indian Music.

Unit – II

1. Elementary knowledge of the following terms: (not more than 100 words) :
Swara, Saptak, Alankar. Aron, Avroh, Pakad, Thaata
2. Elementary knowledge of Bhatkhande Notation System.

Unit – III

1. Brief description of your own instrument.
2. Definition and types of Gat (Razakhani and Maseetkhani).

Unit – IV

Notation and Description of the prescribed Ragas and Talas :

1. Rag Bhopali (one Razakhani gat)
2. To write Alankars.
3. To write the notation of Tala (Dadra & Teental) with dugun layakaries

NOTE:- Both the questions from this part must contain one notation of Raga alongwith the notation of Talas.

Unit-V

1. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.**

PRACTICAL

1. Demonstration of different Alankars of Shudh & Vikrit Swaras on your instrument.
2. One Razakhani gat of raga Bhopali
3. Knowledge of the non-detailed raga : Deshkar (only Aroh-Avroh and Pakad).
4. Ability to demonstrate the following talas by hand in Ekgun and Dugun layakaries:
Dadra, Teental .
5. Ability to play Shudh-Swaras on Harmonium.
6. Ability to play Dadra tala on tabla.

Books Recommended

1. *Rag Parichaya Part II and III* : H.C. Srivastava.
2. *Sangeet Kaumudi Part-II (Punjabi)* : V.S. Nigam
3. *Sitar Marg, Part-II* : S. Bandopadhya.
4. *Sangeet Sar, Part-I* : Mrs. Veena Mankaran.
5. *Sangeetanjali, Part I & IV* : Pt. Onkar Nath Thakur.
6. *Sangeet Manjusha* : Dr. Indrani Chakravarti.
7. *Sangeet Shastra Vigyan* : Sh. Panna Lal Madan
8. *Sangeet Kala ka Itihas* : Sh. Panna Lal Madan

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MUSIC (Instrumental)

SEMESTER-II

GENERAL INSTRUCTIONS

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto 10 students in one section in Practical Class.
3. **There should not be more than eight students in a batch for practical examination.**
4. Harmonium can be used while singing Alankars.
5. In all, *nine* questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting by one question from each Unit. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 question of 01 marks each.**
6. In Instrumental Music, the candidates have the option to take any one of the following instruments: Sitar, Sarangi, Veena, Sarod, Dilruba, Violin, Guitar, Bansuri, Shahnai, Santoor.
7. **While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.**
8. The candidate can take vocal music or Tabla along with instrumental music

| | |
|--|------------|
| THEORY (3 Hours duration) | 45 Marks |
| PRACTICAL (20 minutes duration) | 45 Marks |
| (i) Viva | : 35 Marks |
| (ii) Harmonium | : 05 Marks |
| (iii) Tabla | : 05 Marks |
| Internal Assessment (Theory + Practical) (05 + 05) | : 10 Marks |

THEORY**Unit-I**

1. Various developments (in brief) in the History of Indian Music of Modern Period.
2. Knowledge of Bhatkhande That Paddhati.
3. Study of Nada

Unit-II

1. Elementary knowledge of the following terms (not more than 100 words) :
Matra, Avartan, Sam, Tali, Khali and Vibhag
2. Study of various bols of Mizrab,Tora , Jhala

Unit-III

1. Elementary knowledge of Laya and Taal in Music
2. Brief life sketches and their contributions to Indian Music of the following great masters :-
 - (i) Pt. Ravi Shanker
 - (ii) Pt. V.N. Bhatkhande

Unit-IV

Definition and description of the prescribed Ragas and Tala :- Yaman , Kafi

1. One Maseetkhani Gat in any prescribed raga and talas :-Yaman , Kafi
2. To write the notation of Razakhani Gat of rag Kafi and Yaman with atleast four todas
3. Write in notation Jhaptala, Keharva Tala with dugun layakaries.

NOTE:- Both the questions from this part must contain one notation of Raga alongwith the notation of Talas.

Unit-V

1. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.**

PRACTICAL

1. One Maseetkhani Gat in any raga of your syllabus.
2. Razakhani gats with toras & Jhala in the following ragas :-Kafi, Yaman
3. Ability to demonstrate the following talas by hand in Ekgun and Dugun layakaries :Talas : Jhaptal & Keharva
4. Ability to play Teen tala on Tabla
5. Ability to play Aroh, Avron of Raag Yaman & Kafi on Harmonium.
6. Ability to play National Anthem on your own instrument.

Books Recommended:

- | | | |
|--------------------------------------|---|-------------------------|
| 1. Rag Parichaya Part II and III | : | H.C. Srivastava |
| 2. Sangeet Kaumudi Part-II (Punjabi) | : | V.S. Nigam |
| 3. Sitar Marg Part-II | : | S. Bandopadhya |
| 4. Sangeet Sar, Part-I | : | Mrs. Veena Mankaran |
| 5. Sangeetanjali, Part I & IV | : | Pt. Onkar Nath Thakur |
| 6. Sangeet Manjusha | : | Dr. Indrani Chakravarti |
| 7. Sangeet Shastra Vigyan | : | Sh. Panna La Madan |
| 8. Sangeet Kala ka Itihas | : | Sh. Panna La Madan |

MUSIC (Tabla)**SEMESTER – I****GENERAL INSTRUCTION:**

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. In all, nine questions will be set from the whole syllabus of Semester-I. The question paper will be divided into five units. First four units contain 02 questions each, out of which the candidates are to attempt one question from each unit, unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.
3. Harmonium/ Sarangi will be allowed to play Nagma/Lehra. No electronic Lehra machine will be allowed for practical examination.
4. Practical Paper shall be set from the syllabus for Paper-B (Practical).

Paper-A: THEORY (3 Hours duration) : 45 Marks

Paper-B: PRACTICAL (20 minute's duration). : 45 Marks

| | | |
|-------|-----------------|----------|
| (i) | Viva | 30 Marks |
| (ii) | Harmonium | 05 Marks |
| (iii) | Tabla (Tuning) | 05 Marks |
| (iv) | Padhant on Hand | 05 Marks |

Internal Assessment (Theory+Practical) (5+5) 10 Marks

Total: 100 Marks

Paper-A THEORY

UNIT-I

1. Brief history of Tabla
2. Elementary knowledge of Taal
3. Sangeet (definition & Importance).

UNIT-II

1. Definitions : Sam, Tali, Khali, Vibhag, Bol, Theka, Avartan, Thah, Dugun
2. Brief description of Tabla.
3. Description of playing techniques of ten vernas.

UNIT-III

1. Life sketches and contributions of the following:-
 - a. Ustad Siddhar Khan
 - b. Miyan Kadar Baksh
 - c. Pt. Chatur Lal

UNIT-IV

1. Ability to write in notation the composition prescribed Taal: (Teentaal, Chautal, Kehrva)
Quaida, Simple Tukra, Tihai
2. To write description of Taal of the syllabus.
3. To write the notation of Taal in Single and Double.

UNIT-V

1. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

Paper-B PRACTICAL

1. Taals Prescribed Teen Taal, Chautaal, Kehrwa
2. Laggi in Kehrwa Taal and its variety.
3. Teen Taal (Peshkara, Two Paltas, Two Kaydas, Two Mukhra)
4. Chautaal (Theka in Thah and Dugun)
5. Practice of playing the above Taals with Vocal and Instrumental performances.
6. Ability to play Nagma/Lehra on Harmonium in Teen Taal.

Books Recommended:

- | | |
|--------------------------------|-------------------------------|
| 1. Taal Prabhakar Prashnottari | : G.C. Srivastava. |
| 2. Tabla Tarang | : B.S. Nigam |
| 3. Taal Prakash | : Sangeet Karyalaya, Hathras. |
| 4. Avanaddha Vadhya | : M.P. Sharma |
| 5. Hamare Sangeet Ratan | : Sangeet Karyalaya, Hathras. |
| 6. Tabla ki Utpatti Evam Vikas | : Yogmaya Sharma |
| 7. Tabla Vadan Part-1 | : Jagmohan Sharma |
| 8. Tala Parichya Part-1 | : G.C. Srivastava. |

MUSIC (Tabla)**SEMESTER-II****GENERAL INSTRUCTIONS:**

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. In all, nine questions will be set from the whole syllabus of Semester-II. The question paper will be divided into five units. First four units contain 02 questions each, out of which the candidates are to attempt one question from each unit, unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.
3. Harmonium/Sarangi will be allowed to play Nagma/Lehra. No electronic Lehra machine will be allowed for practical examination.
4. Practical Paper shall be set from the syllabus for Paper-B (Practical).

| | | | |
|-----------------|--|---|------------------|
| Paper-A: | THEORY (3 Hours duration) | : | 45 Marks |
| Paper-B: | PRACTICAL (20 minutes duration). | : | 45 Marks |
| | (i) Viva | : | 30 Marks |
| | (ii) Harmonium | : | 05 Marks |
| | (iii) Tabla (Tuning) | : | 05 Marks |
| | (iv) Padhant on Hand | : | 05 Marks |
| | Internal Assessment (Theory & Practical) (5+5) | : | 10 Marks |
| | Total | : | 100 Marks |

Paper-A Theory**UNIT- I**

1. Origin and development of Tabla
2. Definition of Baaj and Chhand.
3. Brief description of Bhatkhande Taal notation system.

UNIT- II

1. Importance of Taal in music.
2. Elementary knowledge of the following musical terms (not more than 100 words)
Matra, Laya (Vilambit, Madya, Drut) Tukra, Ateet, Anagat
3. Gharana:- Definition and importance in the context of Tabla.

UNIT- III

1. Life sketches and contributions of the following:-
 - a. Ustad Allah Rakha Khan.
 - b. Ustad Ahmad Jaan Thirkava.
 - c. Pt. Samta Parshad (Gudai Maharaj)

UNIT- IV

1. Teental, Ektaal, Dadra.
2. To write description of Taals of your syllabus.
3. To write the notation of Taal in Single Double and Chaugun

UNIT- V

1. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

Paper-B: PRACTICAL

1. Taals prescribed Dadra, Ektaal, Teen Taal
2. Laggi in Dadra and Kehrwa Taal.
3. Ektaal (One Qaida, Two Tukra, Two Tihai, One Paran)
4. Teentaal (One Rela, One Chakradar Paran, One Tukra, One Mohra)
5. Practice of Dholak playing in Kehrwa Taal.
6. Ability to play Nagma/Lehra on Harmonium in Ektaal.
7. Tuning of Tabla.

Books Recommended:

- | | |
|--------------------------------|-------------------------------|
| 1. Tala Prabhakar Prashnottari | : G.C. Srivastava. |
| 2. Tabla Tarang | : B.S. Nigam |
| 3. Taal Prakash | : Sangeet Karyalaya, Hathras. |
| 4. Avanaddha Vadya | : M.P. Sharma |
| 5. Harmare Sangeet Ratan | : Sangeet Karyalaya, Hathras. |
| 6. Tabla ki Utpatti Evam Vikas | : Yogmaya Sharma |
| 7. Tabla Vadan Part-1 | : Jagmohan Sharma |
| 8. Tala Parichya Part-1 | : G.C. Srivastava. |

MUSIC (Indian Classical Dance)

SEMESTER-I

GENERAL INSTRUCTIONS:

- 1 In case of the private candidates, there would be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
- 2 There would be upto ten students in one section in practical class.
- 3 There would not be more than eight students in a batch for practical examination.
- 4 No electronic Instruments will be allowed for lehra in practical examination
- 5 The candidate can take Dance along with Vocal music.
- 6 The candidate can also take instrumental music with Dance.
- 7 While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.
- 8 In all, *nine* questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.

| | |
|---|----------|
| THEORY (Time duration 3 hours.) | 45 Marks |
| PRACTICAL (20 minutes duration) | 45 Marks |
| Internal assessment (Theory and Practical) (5 + 5) | 10 Marks |

Paper-A : Theory

Unit –I

1. Origin of Tandava
2. Four Neck movements
3. Eight eye glances

Unit-II

1. Definition of Mudra. Explain Asamyukta Mudras based on Abhinaya Darpan.
2. Definition of the following terms:
Tora, Salami, Theka, Tehai, Amad.
3. Brief study of Kathak Dance in Ancient period .

Unit-III

1. Definition of folk Dance.
2. A study of folk dances of Punjab, their costumes and background music.
3. A study of folk dance of Haryana, their costumes and background music.

Unit-IV

1. Notation of Tatkar and Theka in Ekgun, Dugun and Chaugun laykaries in teental.
2. Notation of Amad, Tukra, Salami, Tora and Tihai in Teentaal.
3. Notation of Nagma in Teentaal.

Unit-V

1. The ninth question of unit v is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each

Practical: Paper-B

(A) Teen Taal:

i)Tatkar in Ekgun, Dugun and Chaugun laykaries. Theka and Tatkar with Ekgun. Dugun and Chaugun Layakaries

| | | | |
|------|--------|---|---|
| ii) | Salami | - | 1 |
| iii) | Amad | - | 1 |
| iv) | Tora | - | 4 |
| v) | Tihai | - | 1 |
| vi) | Tukra | - | 1 |

- B) Practice of entire the technical part in Teentaal on hand
- C) Theka of Teentaal on hand in Ekgun and Dugun laykaries
- D) Theka of Teentaal on tabla.

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MUSIC (Indian Classical Dance)

SEMESTER –II

GENERAL INSTRUCTIONS:

1. In case of the private candidates, there would be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto ten students in one section in practical class.
3. There would not be more than eight students in a batch for practical examination.
4. No electronic Instruments will be allowed for lehra in practical examination
5. The candidate can take Dance along with Vocal music.
6. The candidate can also take instrumental music with Dance.
7. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.
8. In all, nine questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.

| | |
|---|----------|
| THEORY (Time duration 3 hours.) | 45 Marks |
| PRACTICAL (20 minutes duration) | 45 Marks |
| Internal assessment (Theory and Practical) (5 + 5) | 10 Marks |

Paper-A: THEORY

Unit –I

1. Study of Lasya Dance.
2. Six Eyebrow movements.
3. Nine Head movements.

Unit-II

1. Detail knowledge of Samyukta Mudras based on Abhinaya Darpan.
2. Essential characteristics of Bharatnatyam.
3. Detailed study of Kathak in mughal period.

Unit-III

1. Brief study of Abhinaya and its various parts.
2. Life sketch of Pt. Narayan Prasad.
3. Definition of Nritya, Nritya and Natya.

Unit IV

1. Notation of Theka of Jhaptal in Ekgun, Dugun and Chougun layakaries.
2. Notation of Tatkar, Tora, Amad and Paran and Chakardar Paran in Jhaptal.
3. Notation of Tatkar, Thaat, Tora, Tehai and Kavita in Teental.

Unit-V

1. The ninth question of unit v is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

Paper-B : PRACTICAL**(A) Teen Taal:**

- | | | | |
|------|---|---|---|
| i) | Tatkar in teental in Ekgun, Dugun and Chougun layakaries. | | |
| ii) | Thaat | - | 1 |
| iii) | Tora | - | 2 |
| iv) | Kavita | - | 1 |
| v) | Tihai | - | 1 |

(B) Jhaptal:-

- | | | | |
|------|--|---|---|
| i) | Tatkar in Ekgun, Dugun and Chaugun layakaries. | | |
| ii) | Tora | - | 2 |
| iii) | Amad | - | 1 |
| iv) | Paran | - | 1 |
| v) | Chakardar paran | - | 1 |

- (C) Practice of entire technical part in Teental and Jhaptal on hand
- (D) Practical knowledge of Samyukta Mudras.
- (E) Ability to play nagma in teentaal on Harmonium.
- (F) Ability to play theka of Jhaptaal on Tabla.

FINE ARTS

SEMESTER – I

Theory (History of Art)

| | | |
|---------------------|---|----------|
| Max. Marks | : | 60 |
| Written Paper | : | 54 Marks |
| Internal Assessment | : | 06 Marks |
| Total | : | 60 Marks |

Instruction to paper-setters

The paper-setter is required to set **9 questions** in all. **The candidate is to attempt 5 questions as per the instructions given in the question paper.**

The first question shall be of short answer type containing 9 questions, spread over the whole syllabus. Each question is to be answered in about 25 to 30 words. It shall carry 18 marks and shall be a **Compulsory** question.

8 questions are to be set from the entire syllabus consisting of 4 Units. Two questions will be set from each Unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from each Unit. So, the candidate shall attempt 4 questions in all out of 8 questions. **Each question** would be of **9 marks**.

Objectives :

The aim of the paper is to introduce to the students various schools, styles and phases of the developments in painting and sculpture in India and the West. The emphasis will be to make them aware of the different terms, concepts, forms and subject matter of these works.

Unit-I : History of Indian Painting

- Pre-historic paintings from Bhim–Betka .
- Ajanta Cave Painting: Shaddanta Jataka, Padmapani, Avalokitesvara, Dying Princess, Mahajanaka Jataka, Decorative ceiling panels from Cave No. 2.

Unit-II : History of Indian Sculpture

- Indus Valley Civilization - Seals, Metal Dancing Girl, Red Sandstone Torso, Bust of Priest from Mohenjodaro.
- Mauryan Art: Rampurva Bull Capital, Lion Capital from Sarnath, Didarganj Yakshi.

Unit-III : History of Western Art

- Pre-historic Art - Wounded Bison (Altamira), Venus of Willendorf.
- Egyptian Art - Palette of King Narmer, Seated Scribe.
- Greek Art - Standing Youth, Discobolus, Laocoon Group.

Unit-IV : Definition of Key Terms and General Concepts

- Colour: Colour Theory, Colour wheel, Colour terminology and meaning of colour, Line - different types of lines and its meaning, Perspective: Linear and Aerial, Foreshortening.

Pedagogy :

The students are expected to familiarize themselves with the art forms as seen from the books, slides and related films. Visits to Museums, exhibitions and art galleries are a part of study.

Suggested Readings :

1. Kramrisch, Stella : Survey of Painting in the Deccan, Oriental Books Corporation, New Delhi, 1983.
2. Majumdar, R.C. (editor) : The History and Culture of Indian People, Vols. I, II and III (Sculpture and Painting Sections only) Bhartiya Vidya Bhawan, Bombay, 1988, 1990, 1996.
3. Gupte and Mahajan : Ajanta, Ellora and Aurangabad Caves, D.B. Taraporevala Sons & Co. Pvt. Ltd., Bombay, 1962.
4. Rowland, Benjamin : The Art and Architecture of India, Penguin Books, Great Britain, 1959.
5. Saraswati, S.K. : A Survey of Indian Sculpture, Munshiram Manoharlal Publishers Pvt. Ltd., New Delhi, 1975.
6. Ray, N.R. : An Approach to Indian Art, Publication Bureau, Panjab University, Chandigarh, 1974.
7. Barrett, D. and Gray, B : Painting of India, The World Publishing Co., Ohio, 1963.
8. Archer, W.G. : India and Modern Art, George Allen & Unwin Limited, London, 1959.
9. Brown, Percy : Indian Painting under the Mughals, Cosmo Publications, New Delhi, 1981.
10. Aggarwala, V.S. : Heritage of Indian Art, Publications Division, Ministry of Information & Broadcasting, Govt. of India, New Delhi, 1976.
11. Aggarwala, V.S. : Indian Art (English), Varanasi, 1965.
12. Aggarwala, V.S. : Bhartiya Kala (Hindi), Prithvi Prakashan, 1977.
13. Read, Herbert : Meaning of Art, Faber & Faber, London, 1972.
14. Janson, H.W. : History of Art, Thames & Hudson, London, 2001.
15. Gardner, Helen : Art Through the Ages, Harcourt Brace & Co., U.S.A., 1991.
16. Gombrich, E.H. : The Story of Art, Phaidon Press Limited, New York, 1995.

PRACTICAL

This paper consists of three sections :

| | | |
|--|------------------------|--------------------------|
| 1. Still Life Study | Max. Marks : 30 | Max.Time: 5 hours |
| 2. Drawing from Life | Max. Marks : 30 | Max.Time: 5 hours |
| 3. Landscape Painting (on the spot) | Max.Marks: 30 | Max.Time: 5 hours |
| Total : 90 Marks | | |

SECTION-I Still Life Study (30 Marks)

1. Drawing and Painting of a number of objects and to study the proportion, volume and rhythmic relationship of masses, study and rendering of texture of different objects.
2. Number of objects : Three objects with display at the back.
3. Medium : Pencil, charcoal or Pastel colours.
4. Size : ½ Imperial sheet

SECTION-II Drawing from Life (30 Marks)

1. Portrait : From Live Model or Cast in Monochrome
2. Medium: Pencil Shading, charcoal
3. Size: ½ Imperial size sheet.
4. Emphasis should be on structure, proportion, foreshortening, Textural Values, Posture & Individuality of the model.

SECTION-III Landscape Painting (on the spot) (30 Marks)

1. Landscape painting: Study relationship of objects, their arrangements in the foreground, middle and distance, texture, relative size of masses, tones and colours, use of linear and aerial perspective.
2. Medium : Pencil Sketching or Pastel, Pencil colours.
3. Size : ½ Imperial sheet

SESSIONAL MARKS : 50 (Based on work related equally to 3 sections).

Sessional marks will be given on the basis of the work done during the session in all the three sections. At least, three works will be submitted in each section. Sessional marks shall be given by external and internal examiners jointly. In case of difference of opinion, marking may be done separately by each examiner giving marks out of 50% of the aggregate of the sessional marks.

- NOTE :**
1. Choice of option to be offered would depend on the facility available in each Institution concerned.
 2. Minimum of 9 hours' teaching per week be assigned to the subjects and out of nine hours, six hours be earmarked for practical classes and three hours for theory classes (per week)

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FINE ARTS

SEMESTER – II

Theory (History of Art)

| | | |
|---------------------|---|----------|
| Max. Marks | : | 60 |
| Written Paper | : | 54 Marks |
| Internal Assessment | : | 06 Marks |
| Total | : | 60 Marks |

INSTRUCTIONS TO PAPER-SETTERS

The paper-setter is required to set **9 questions** in all. **The candidate is to attempt 5 questions as per the instructions given in the question paper.**

The first question shall be of short answer type containing 9 questions, spread over the whole syllabus. Each question is to be answered in about 25 to 30 words. It shall carry 18 marks and shall be a **Compulsory** question.

8 questions are to be set from the entire syllabus consisting of 4 Units. Two questions will be set from each Unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from each Unit. So, the candidate shall attempt 4 questions in all out of 8 questions. **Each question** would be of **9 marks**.

Objectives :

The aim of the paper is to introduce to the students various schools, styles and phases of the developments in painting and sculpture in India and the West. The emphasis will be to make them aware of the different terms, concepts, forms and subject matter of these works.

Unit-I : History of Indian Painting

- Sittanavasal - Lotus Pond.
- Eastern Indian Miniature Painting with special reference to Ashtasahasrika Prajnaparamita.
- Western Indian Miniature Painting with special reference to Nativity of Mahavira from Palm-leaf manuscripts.

Unit-II : History of Indian Sculpture

- Bharhut - Dream of Queen Maya, Yakshas and Yakshini figures.
- Amravati - The Great Departure, Subjugation of Nalagiri.

Unit-III : History of Western Art

- Roman Art - Augustus of Prima Porta, Arch of Titus.
- Byzantine Art – Mosaic: Emperor Justinian and his Attendants in S. Vitale.
- Gothic Art - Madonna Enthroned by Duccio, The Lamentation by Giotto.

Unit-IV : Definition of Key Terms and General Concepts

Mural - Fresco and Tempera techniques, Miniature, Chiaroscuro (light-shade), Sculpture in round and in relief.

Pedagogy :

The students are expected to familiarize themselves with the art forms as seen from the books, slides and related films. Visits to Museums, exhibitons and art galleries are a part of study.

Suggested Readings :

1. Kramrisch, Stella : Survey of Painting in the Deccan, Oriental Books Corporation, New Delhi, 1983.
2. Majumdar, R.C. (editor) : The History and Culture of Indian People, Vols. I, II and III (Sculpture and Painting Sections only) Bhartiya Vidya Bhawan, Bombay, 1988, 1990, 1996.
3. Gupte and Mahajan : Ajanta, Ellora and Aurangabad Caves, D.B. Taraporevala Sons & Co. Pvt. Ltd., Bombay, 1962.
4. Rowland, Benjamin : The Art and Architecture of India, Penguin Books, Great Britain, 1959.
5. Saraswati, S.K. : A Survey of Indian Sculpture, Munshiram Manoharlal Publishers Pvt. Ltd., New Delhi, 1975.
6. Ray, N.R. : An Approach to Indian Art, Publication Bureau, Panjab University, Chandigarh, 1974.
7. Barrett, D. and Gray, B : Painting of India, The World Publishing Co., Ohio, 1963.
8. Archer, W.G. : India and Modern Art, George Allen & Unwin Limited, London, 1959.
9. Brown, Percy : Indian Painting under the Mughals, Cosmo Publications, New Delhi, 1981.
10. Aggarwala, V.S. : Heritage of Indian Art, Publications Division, Ministry of Information & Broadcasting, Govt. of India, New Delhi, 1976.
11. Aggarwala, V.S. : Indian Art (English), Varanasi, 1965.
12. Aggarwala, V.S. : Bhartiya Kala (Hindi), Prithvi Prakashan, 1977.
13. Read, Herbert : Meaning of Art, Faber & Faber, London, 1972.
14. Janson, H.W. : History of Art, Thames & Hudson, London, 2001.
15. Gardner, Helen : Art Through the Ages, Harcourt Brace & Co., U.S.A., 1991.
16. Gombrich, E.H. : The Story of Art, Phaidon Press Limited, New York, 1995.

PRACTICAL

This paper consists of three sections :

- | | | |
|--|-------------------------|--------------------------|
| 1. Still Life Study | Max. Marks : 30 | Max.Time: 5 hours |
| 2. Drawing from Life | Max. Marks : 30 | Max.Time: 5 hours |
| 3. Landscape Painting (on the spot) | Max.Marks : 30 | Max.Time: 5 hours |
| | Total : 90 Marks | |

SECTION-I Still Life Study (30 Marks)

1. Drawing and Painting of a number of objects to study proportion, volume and rhythmic : relationship of masses, study and rendering of texture of different objects.
2. Number of objects : Three objects with display at the back.
3. Medium : Oil, acrylic or water colours.
4. Size : ½ Imperial sheet or Canvas Pad

SECTION-II Drawing from Life (30 Marks)

1. Portrait : From Live Model or Cast in Monochrome
2. Medium: Charcoal or Pastels (Monochrome)
3. Size: ½ Imperial size sheet.
4. Emphasis should be on structure, proportion, foreshortening, Textural Values, Posture & Individuality of the model.

SECTION-III Landscape Painting (on the spot) (30 Marks)

Landscape painting: Study relationship of objects, their arrangements in the foreground, middle and distance, texture, relative size of masses, tones and colours, use of linear and aerial perspective.

1. Medium : Oil, acrylic or water colours.
2. Size : ½ Imperial sheet or Canvas pad

SESSIONAL MARKS : 50 (Based on work related equally to 3 sections).

Sessional marks will be given on the basis of the work done during the session in all the three sections. At least, three works will be submitted in each section. Sessional marks shall be given by external and internal examiners jointly. In case of difference of opinion, marking may be done separately by each examiner giving marks out of 50% of the aggregate of the sessional marks.

- NOTE :**
1. Choice of option to be offered would depend on the facility available in each Institution concerned.
 2. Minimum of 9 hours' teaching per week be assigned to the subjects and out of nine hours, six hours be earmarked for practical classes and three hours for theory classes (per week)
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HISTORY OF ART

SEMESTER – I

Note :

1. Each paper carries 100 marks.
2. The paper-setter is required to set 9 questions in all. The candidate is to attempt 5 questions as per the instructions given in the question paper.
3. The first question shall be of short answer type containing 14 questions spread over the whole syllabus. Each question is to be answered in about 25 to 30 words. It shall carry 28 marks and shall be a **Compulsory** question.
4. 8 questions are to be set from the entire syllabus consisting of 4 Units. Two questions will be set from each Unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from each Unit. So, the candidate shall attempting 4 questions in all out of 8 questions. Each question would be of 18 marks.

HISTORY OF INDIAN PAINTING AND SCULPTURE

Max. Marks : 100

Time : 3 Hours

Objectives :

The aim of the paper is to introduce to the students various schools, styles and phases of the developments in painting and sculpture in India. The emphasis will be to make them aware of the different terms, concepts, forms and subject matter of these works.

Study of Indian Painting :

Unit-I

- (a) Pre-historic Painting.
- (b) *Ajanta* : Early Period, Classical Period and Post-Classical Period.

Unit-II

- (a) Bagh
- (b) Badami.
- (c) Sittanavasal.
- (d) Ellora.

Study of Indian Sculpture :**Unit-III**

- (a) Indus Valley Civilization.
- (b) Mauryan Period.
- (c) Bharhut.
- (d) Sanchi.

Unit-IV

- (a) Amaravati.
- (b) Nagarjunikonda.
- (c) Mathura under the Kushanas.
- (d) Gandharan Art.

Pedagogy :

The students are expected to familiarize themselves with the art forms as seen from the books, slides and related films.

Suggested Readings :

1. Kramrisch, Stella : *Survey of Painting in the Deccan*, Oriental Books Reprint Corporation, New Delhi, 1983.
2. Majumdar, R.C. (editor) : *The History and Culture of Indian People*, Vols. I, II and III (Sculpture and Painting Sections only) Bhartiya Vidya Bhawan Bombay, 1996, 1990, 1988.
3. Gupte and Mahajan : *Ajanta, Ellora and Aurangabad Caves*, D.B. Taraporevala Sons & Co. Pvt. Ltd., Bombay, 1962.
4. Rowland, Benjamin : *The Art and Architecture of India*, Penguin Books, Great Britain, 1959.
5. Saraswati, S.K. : *A Survey of Indian Sculpture*, Munshiram Manoharlal Publishers Pvt. Ltd., New Delhi, 1975.
6. Aggarwala, V.S. : *Heritage of Indian Art*, Publications Division, Ministry of Information & Broadcasting, Govt. of India, New Delhi, 1976.
7. Aggarwala, V.S. : *Indian Art* (English), Varanasi, 1965.
8. Aggarwala, V.S. : *Bhartiya Kala* (Hindi), Prithvi Prakashan, 1977.

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HISTORY OF ART

SEMESTER – II

Max. Marks : 100
Time : 3 Hours

Note :

1. Each paper carries 100 marks.
2. The paper-setter is required to set 9 questions in all. The candidate is to attempt 5 questions as per the instructions given in the question paper.
3. The first question shall be of short answer type containing 14 questions spread over the whole syllabus. Each question is to be answered in about 25 to 30 words. It shall carry 28 marks and shall be a **Compulsory** question.
4. 8 questions are to be set from the entire syllabus consisting of 4 Units. Two questions will be set from each Unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from each Unit. So, the candidate shall attempting 4 questions in all out of 8 questions. Each question would be of 18 marks.

STUDY OF WESTERN PAINTING AND SCULPTURE (from the earliest times to ca. 1400 A.D.) and Theory and Principles of Art Appreciation

Objectives :

The aim of the paper is to introduce to the students various schools, styles and phases of the developments in painting and sculpture in the west. The emphasis will be to make them aware of the different terms, concepts, forms and subject matter of these works.

History of Western Art :

Unit-I

- (a) Pre-historic Painting.
- (b) Egyptian Art.

Unit-II

- (a) Greek Art.
- (b) Roman Art.

Unit-III

- (a) Art of Early Christian Period.
- (b) Byzantine Period.
- (c) Gothic Period.

Unit-IV**Explanation through illustrations of the concept of :**

- (a) Space, Line, Colour, Form, Texture, Light and Shade, Design, Balance, Harmony, Composition, Perspective, Foreshortening.
- (b) Mural, Fresco and Tempera techniques.

Pedagogy :

The students are expected to familiarize themselves with the art form as seen from the books, slides and related films.

Suggested Readings :

- 1. Read, Herbert : *Meaning of Art*, Faber & Faber, London, 1972.
 - 2. Janson, H.W. : *History of Art*, Thames & Hudson, London, 2001.
 - 3. Gardner, Helen : *Art Through the Ages*, Harcourt Brace & Co., U.S.A., 1991.
 - 4. Gombrich, E.H. : *The Story of Art*, Phaidon Press Limited, New York, 1995.
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ANCIENT INDIAN HISTORY, CULTURE & ARCHAEOLOGY**SEMESTER – I**

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hours |

Paper-I : HISTORY AND CULTURE OF INDIA FROM THE INDUS VALLEY CIVILIZATION TO 321 B.C.**Objectives :**

The paper is a survey of the proto-historic and historic background to Indian history from the Harappan Civilization to 321 BC.

Pedagogy of the Course Work :

Students are familiarized with sources and with methods of reconstructing ancient history. An attempt is made to view the events in their situational context, locating the interconnection of social, economic and political developments, as far as their sources permit.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

1. The theory paper will be of 90 marks and 10 marks will be for internal assessment.
2. For Private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (2) in the question paper.

3. The paper-setter is required to set **9** questions in all. All questions shall carry equal marks. The paper shall be of 3 hours duration.
4. The first question shall be of short answer type containing 15 short questions spread over the entire syllabus. The candidate is required to answer any 9 short answer type questions. Each short answer type question shall be of 2 marks to be answered in 25 to 30 words. **OR** a question on map. The map work shall consist of 12 marks for the map and 06 marks for the explanatory notes.
5. The map question shall have the following topics :
 - (a) Extent of the Harappan Civilization.
 - (b) Location of the 16 Mahajanapadas.
 - (c) Alexander's Indian campaign.
6. The rest of the paper shall contain 4 Units. The entire syllabus has been divided into 4 Units. The paper setter shall set 2 questions from each Unit and the candidate shall be given internal choice i.e. the candidate shall attempt one question from each Unit. Each question shall carry 18 marks.

UNIT-I

Sources of Ancient Indian history: Harappan Civilization: origin; extent; urban features and decline.

UNIT-II

Vedic Civilization (Rig Vedic and Later Vedic Period): society; polity; economy; culture and religion.

UNIT-III

The Sixteen Mahajanapadas with special reference to the rise of Magadha (from Bimbisara to the fall of the Nandas); The rise of Buddhism and Jainism.

UNIT-IV

The Iranian and Macedonian invasions: political and cultural impact on the Indian subcontinent.

Essential Readings :

1. Basham, A.L. : *The Wonder that was India*, Rupa, Mumbai, 1971.
2. Chakravarti, Ranabir : *Exploring Early India: Upto C.AD 1300* Ratna Sagar, New Delhi 2016.
3. Jha, D.N. : *Ancient India in Historical Outline*, Manohar, New Delhi, 1977.
4. Majumdar, R.C. et al : *The Vedic Age, Vol.I, Bombay*; Bhartiya Vidya Bhavan, Mumbai, 1971.
5. Ratnagar, S. : *Understanding Harappa*, Tulika, New Delhi, 2001.
6. Raychaudheri, H.C. : *The Political History of Ancient India*, rev. ed. Oxford, New Delhi, 2011.
7. Sharma, R.S. : *Material Culture and Social Formation in Ancient India*, Machmillan, Delhi, 1983
8. Singh, Upinder : *A History of Ancient and Early Medieval India (From the Stone age to the 12th Century)*, Pearson Education, Delhi, 2009
9. Thapar, R. : *A History of India, Vol. I: From Origins to 1300*, Penguin, 1990.

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ANCIENT INDIAN HISTORY, CULTURE & ARCHAEOLOGY SEMESTER – II

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hours |

Paper-II : HISTORY AND CULTURE OF INDIA FROM THE MAURYAS TO 319 A.D.

Objectives :

This course deals with the political and cultural history of India from Mauryas to the Post Kushana period.

Pedagogy of the Course Work :

The students are taught with the help of slides, photographs, topographical maps and political maps. In addition to it, lectures, workshops and seminars are arranged to facilitate the students to understand the subject in a better way.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

1. The theory question paper will be of 90 marks and 10 marks will be for internal assessment.
2. For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (2) in the question paper.

3. The paper-setter is required to set **9** questions in all. All questions shall carry equal marks. The paper shall be of 3 hrs. duration.
4. The first question shall be of short answer type containing 15 short questions spread over the entire syllabus. The candidate is required to answer any 9 short answer type questions. Each short answer type question shall be of 2 marks to be answered in 25 to 30 words. **OR** a question on map. The map work shall consist of 12 marks for the map and 06 marks for the explanatory notes.
5. The map question shall have the following topics :
 - (a) Extent of the Mauryan empire.
 - (b) Location of Ashokan inscriptions.
 - (c) Extent of Kanishka's empire.
6. The rest of the paper shall contain 4 Units. The entire syllabus has been divided into 4 Units. The paper setter shall set 2 questions from each Unit and the candidate shall be given internal choice i.e. the candidate shall attempt one question from each Unit. Each question shall carry 18 marks.

UNIT-I :

The Mauryan empire: sources; political and cultural relations; administrative organization; society and economy; Ashoka's dhamma; downfall of the Mauryan empire.

UNIT-II:

Sungas, Kanvas and Satvahanas: survey of the sources; political overview; society and economy; culture and religion.

UNIT-III:

The Indo Greeks, Shakas and Parthians: survey of the sources; polity; society and economy.

UNIT-IV:

Kushana and Post-Kushana Period: survey of the sources; social; political; economic; cultural and religious conditions.

Essential Readings :

1. Bongard Levin, G. : *Mauryan India*, Sterling, Delhi, 1985.
2. Chakravarti, Ranabir : *Exploring Early India: Upto C.AD 1300* Ratna Sagar, New Delhi 2016.
3. Jha, D.N. : *Ancient India in Historical Outline*, Manohar, New Delhi, 1977.
4. Majumdar, R.C. et al, eds. : *The History and Culture of the Indian People*, Bhartiya Vidya Bhawan, Mumbai, 1951.
5. Mukherjee, B.N. : *The Rise and Fall of the Kushana Empire*, Firma KLM, Calcutta, 1988.
6. Narain, A.K. : *The Indo-Greeks*, Claerendon Press, Oxford, 1957.
7. Nilakantha Sastri, K.A. (ed.) : *The Age of the Nandas and Mauryas*, Motilal Banarsidass, New Delhi, 1988.
8. Raychaudhuri, H.C. : *The Political History of Ancient India*, Oxford, New Delhi, 2011
9. Shastri, A.M. : *Early History of the Deccan*, Sandeep Prakashan, New Delhi, 1987.
10. Shrimali, K.N. : *Prachin Bharat Ka Itihas*, Karyanvaya Nideshalay, Delhi University , Delhi 2009.
11. Singh Upinder : *A History of Ancient and Early Medieval India (From the Stone age to the 12th Century)*, Pearson Education, Delhi, 2009.
12. Thapar, R. : *Ashoka and the Decline of the Mauryas*, Oxford, New Delhi, 2012.
13. Thapar Romila : *The Penguin History of Early India from the origin to AD 1300*, Penguin Books, New Delhi, 2002.

DEFENCE & STRATEGIC STUDIES

SEMESTER – I

INSTRUCTIONS FOR THE PAPER SETTER AND THE STUDENTS

Note:

1. There will be one-theory paper of 70 marks. The internal assessment will be of 10 marks. The theory paper will have one compulsory short answer type question containing 15 questions of 2 marks each covering the entire syllabus. The candidates will be required to attempt any 10 short answer type questions. In addition to it there will be four sections of the question paper containing 2 questions each. The candidate will be required to attempt one question from each of the four sections. Theory paper will be of three hours duration.
2. Practical examination will be compulsory for regular and correspondence students. It will be of 20 marks. There will be 3 hours of teaching per week for practical and the number of students in one group shall not ordinarily exceed fifteen.

PAPER : CONCEPT OF WARFARE

M. Marks : 70
Time : 3 Hrs.

Objective : This paper deals with the conceptual aspects of warfare focuses on the various aspects of warfare from conventional to Nuclear age.

SECTION-I

1. War : Its definition concept and evolution.
2. Principles of War, Historical Development, Meaning & Importance.

SECTION-II

3. Modern War : Meaning, Historical Development, Features and Humanization of War.
4. Non-Conventional Warfare with reference to Guerrilla War : Its Origin, Principles and Techniques.
5. Asymmetric Warfare

SECTION-III

6. Nuclear War, Beginning of Nuclear Era, Effects of Nuclear explosions, Nuclear strategy, Deterrence, Missiles and their classification.

SECTION-IV

7. Psychological aspects of war, Leadership, Motivation, Morale, Discipline, Panic and Fear.
8. Information Warfare.

Books Recommended :

1. Bernard, Brodie, Strategy in the Missile Age Rand Corp., Santa Monica, 2007.
2. Boring, E., Psychology in the Armed Services, National Academics, Washington 1945.
3. Clausewitz Von Carl, On War, Wilder Publications, United States, 2008.
4. Fuller, J.F.C, Armament and History, Da Press, New York,1998 .
5. Fuller, J.F.C., The Conduct of War, N.J. Rutgers University Press, New Brunswick, 1961.
6. Gerald, J., Defence Psychology, Pergamon Press, Michigan, 2008.
7. Harkabi Y., Nuclear War and Nuclear Peace, Transaction Publishers,Piscataway, New Jersey, 2008.
8. Hart, Liddle, Strategy of Indirect Approach, BiblioBazaar, 2011 Washington, 1945.
9. JFR Jacob, Surrender at Dacca, Birth of a Nation, Manohar Publishers & Distributors, New Delhi, 1997.
10. Malkasian Carter, A History of Modern Wars of Attrition, Greenwood Publishing Group, 2002.
11. May Larry, Emily Crookston, War: Eassy in Political Philosophy, Cambridge University Press, 2008.
12. Montgomery, A History of Warfare, Cleveland world Publishers,1968.
13. Palit, D.K., War in the Deterrent Age, Gardners Books, Delhi 2006.
14. Tripathi, K.S., Evolution of Nuclear Strategy, Vikas Publication, Delhi,1970.
15. Waelder Robert, Psychological aspects of war and peace, Geneva research Centre, Geneva, 1939.

Paper : PRACTICAL

Total Marks : 20

Time : 1 hrs

Note :

1. There will be 3 hours of teaching per week for practical. For practical classes, the number of students in one group shall not ordinarily exceed fifteen.
2. Practical exercise should be carried out on drawing sheets with explanatory notes or on Computer.

SECTION-A, Practical Test

Marks: 10

Note :

1. There will be three questions in all carrying 5 marks each and candidates will be required to attempt any two questions.
2. Examiners are required to set the question paper at least half an hour before the examination.

Course Contents for Practical

1. Conventional Signs: Military and Geographical.
2. Introduction to Topographical Maps: Definition, features, classification, enlargement and reduction of maps.
3. Grid System: Four figure, six figure and eight figure map, references.

SECTION-B

Marks: 10

- | | |
|---------------------|---------|
| 1. Practical Record | 5 marks |
| 2. Viva-Voce | 5 marks |

(Students be asked to prepare on current topics of general interest)

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DEFENCE & STRATEGIC STUDIES

SEMESTER – II

INSTRUCTIONS FOR THE PAPER SETTER AND THE STUDENTS

Note:

1. There will be one-theory paper of 70 marks. The internal assessment will be of 10 marks. The theory paper will have one compulsory short answer type question containing 15 questions of 2 marks each covering the entire syllabus. The candidates will be required to attempt any 10 short answer type questions. In addition to it there will be four sections of the question paper containing 2 questions each. The candidate will be required to attempt one question from each of the four sections. Theory paper will be of three hours duration.
2. Practical examination will be compulsory for regular and correspondence students. It will be of 20 marks. There will be 3 hours of teaching per week for practical and the number of students in one group shall not ordinarily exceed fifteen.

Paper : INTERNATIONAL RELATIONS, STRATEGIC ASPECTS

M. Marks : 70
Time : 3 Hrs.

Objective : This paper focuses on the various attributes of international relations and its role in maintaining peace & security.

SECTION-I

1. International Relations: Meaning, concept and its relationship with strategic aspects.
2. National interest and war: Definition of national interest & its relationship with security; War as an instrument of National Policy.

SECTION-II

3. Balance of Power: Meaning, Historical Development, Evaluation and its functioning.
4. Cold War: Definition, Cause and Means, Diplomatic, Psychological, Economic effects and Perspective.

SECTION-III

5. Collective Security: Meaning and Concept, Role of United Nations Organization in maintaining Collective Security.

SECTION-IV

6. Disarmament and Arms Control, Meaning and Concept, Efforts by UNO towards its achievement.

Books Recommended:

1. Flemming, D.F., *The Cold War and its Origin*, Doubleday, University of Michigan, United States, 1961.
2. Gaddis Lewis John, *The Cold War*, Penguin, UK, 2011.
3. Goldblat Jozef, *Arms Control: The New Guide to Negotiations and Agreements with New CD-ROM Supplement*, SAGE, London, 2002.
4. Griffiths Martin, *International Relations: The Key Concepts*, Psychology Press, 2002.
5. Joseph , Frankel , *The Making of Foreign Policy*, Oxford University Press, Oxford, 1963.
6. Knapp, W., *A History of War and Peace*, Oxford University Press, Oxford, 1967.
7. Kumar, Mahendra, *Theoretical Aspects of International Politics*, University of Notre Dame Press, Notre Dame, Ind., 1959
8. Lawrence Robert M., *Arms Control and Disarmament*, Burgers, 1973.
9. Lucas, *A History of Cold War*, Bloomsbury Publishing London, 2008.
10. Morgenthau, H., *Politics Among Nations*, McGraw-Hill New York, 1993.
11. Morton, Halperin , *Limited War in the Nuclear Age*, Greenwood Press, Michigan, 1978.
12. Orakhelashvili Alexander, *Collective Security*, Oxford University Press, UK, 2011.
13. Sarooshi Dan, *The United Nations and the Development of Collective Security: The Delegation by the UN Security Council of Its Chapter VII Powers*, Oxford University Press, UK, 1999.
14. Sheehan Michael J., *The Balance of Power: History and Theory*, Taylor & Francis, 1996.
15. Qamar, Hasanan, *Psychology for the Fighting Man*, Penguin Books, U.K, 1943.

Paper-B: PRACTICAL

Total Marks : 20
Time : 1 hrs

Note:

1. There will be 3 hours of teaching per week for practical. For practical classes, the number of students in one group shall not ordinarily exceed fifteen.
2. Practical exercise should be carried out on drawing sheets with explanatory notes or on computer.

SECTION-A, Practical Test

Marks: 10

Note:

1. There will be three questions in all and candidates will be required to attempt any two questions.
2. Examiners are required to set the question paper at least half an hour before the examination.

Course Contents for Practical

1. Distance and Scale: Definition, types, methods of representing scale, inters conversion of statement, into representative fraction, construction of simple scale line and comparative scale lines.
2. Directions: Types of North, finding out True North, direction by equal altitude method, Watch method, Map method and Compass method.
3. Service Protector: Its type and uses.

SECTION-B

Marks: 10

- | | |
|---------------------|---------|
| 1. Practical Record | 5 marks |
| 2. Viva-Voce | 5 marks |

(Students be asked to prepare on current topics of general interest)

HISTORY

SEMESTER – I

PAPER:HISTORY OF INDIA UPTO 1200 A.D.

INSTRUCTIONS FOR THE PAPER –SETTER AND CANDIDATES: (FOR PAPER in Semester I AND II)

1. The syllabus has been divided into four Units.
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each Unit and 4 questions in all. Each question will carry 18 marks.
2. For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
The paper-setter must put note (2) in the question paper.
3. One question from Unit-IV shall be set on the map.

Explanation:

1. Each essay type question would cover about one-third or one-half of a topic detailed in the syllabus.
2. The distribution of marks for the map question would be as under:

| | | |
|------------------|---|----------|
| Map | : | 10 Marks |
| Explanatory Note | : | 08 Marks |

In case a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 05 places on map of 02 marks each and write explanatory note on any 04 of 02 marks each.

3. The paper-setter would avoid repetition between different types of question within one question paper.

| | | | |
|---------------|---------------------|---|---------|
| Paper: | Max. Marks | : | 100 |
| | Theory | : | 90 |
| | Internal Assessment | : | 10 |
| | Time | : | 3 Hours |

Objectives: To introduce the students to the history of the ancient period in Indian history.
Pedagogy: Lectures, library work and discussions.

UNIT I

1. Major Sources of History: Literary Sources- Indigenous Literature and Foreign Accounts; Archaeological findings; inscriptions; coins and monuments.
2. Harappan Civilization: Extent, town planning; social economic and religious life.
3. Life in Vedic Age: Political and Economic; social and religious.

UNIT II

4. Republics and Kingdom,600-321 B.C.: Mahajanpadas; the rise of Magadha.
5. Jainism and Buddhism: Life and teachings of VardhmanMahavir; Life and teachings of Gautam Buddha.
6. The Mauryan Empire: Central and ProvincialAdministration; revenue, judicial and local administration; Ashoka'sDhamma.

UNIT III

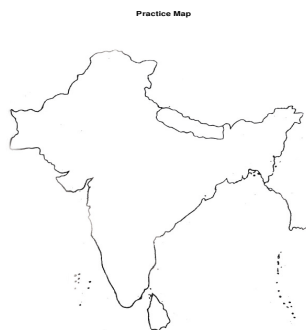
7. Post Mauryan Period: Decline of Mauryas and Kanishka and his achievements.
8. The Gupta Empire: The rise of Guptas and social, economic, cultural and scientific Developments under Guptas.
9. The Rise of Southern Kingdoms: Administration under Pallavas; Rashtrakutas;Chalukyas.

UNIT IV

10. Regional Kingdoms in the North:Administration under Harsh Vardhana; origin ofRajputs.
11. South Indian States: Administration under Cholas; Taxation and trade under Pandayas,

12. Map:

- (i) Map on important Historical places: Ajanta,Bodhgaya,Ellora, Harappa, Indraprastha, Kalibangan, Kalinga, Kannauj, Lothal, Nalanda, Patliputra, Sanchi,` Sopara,Taxila, Ujjain, Varanasi
- (ii) Extent of Harappan Civilization.
- (iii) Mauryan Kingdom under Ashoka.

Specimen Map for Examination:**Reading List**

- Basham, A.L, *The Wonder That Was India*, Calcutta: Rupa& Co., 1992.
- Jha, D.N., *Ancient India : An Historical Outline*, Delhi: Manohar, 2ndRev. Ed., 2005.
- Sharma, R.S, *India's Ancient Past*, Delhi: OUP, 2005.
- Sharma, R.S, *Prarambhik Bharat Ka Parichay*, Delhi: Orient Black Swan, 2007 (Hindi Medium).
- Thapar, Romila, *Early India from the Origin to A.D. 1300*, U.K:Penguin, 2015.
- Noboru, Karashima, *Concise History of South India*, OUP, Delhi, 2014.
- ChakravartyRanbir, *Exploring Early India*, New Delhi: RatnaSagar Pvt. Ltd., 2016.

HISTORY SEMESTER – II

PAPER: HISTORY OF INDIA 1200-1750 A.D.

INSTRUCTIONS FOR THE PAPER –SETTER AND CANDIDATES: (FOR PAPER in Semester I AND II)

1. The syllabus has been divided into four Units.
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each Unit and 4 questions in all. Each question will carry 18 marks.
2. For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
The paper-setter must put note (2) in the question paper.
3. One question from Unit-IV shall be set on the map.

Explanation:

1. Each essay type question would cover about one-third or one-half of a topic detailed in the syllabus.
2. The distribution of marks for the map question would be as under:
Map : 10 Marks
Explanatory Note : 08 Marks
3. In case a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 05 places on map of 02 marks each and write explanatory note on any 04 of 02 marks each.
4. The paper-setter would avoid repetition between different types of question within one question paper.

| | | | |
|---------------|---------------------|---|---------|
| Paper: | Max. Marks | : | 100 |
| | Theory | : | 90 |
| | Internal Assessment | : | 10 |
| | Time | : | 3 Hours |

Objectives: To introduce the students to the history of Medieval India.

Pedagogy: Lectures, library work and discussions.

UNIT I

1. Establishment of Turkish rule under Muizuddin of Ghor; Consolidation under Iltutmish and Balban.
2. The Khaljis: Administration; agrarian and market reforms of Alauddin Khailji.
3. The Tughlaqs: Muhammad Bin Tughlaq's administrative experiments and its impact; Feroz Shah Tughluq's administrative and economic reforms.

UNIT II

4. Vijaynagar Kingdom: Establishment; administration and economy.
5. Formation of the Mughal Empire: Political condition of India on the eve of Babur's invasions; conquests and causes of his success.
6. The Afghans: Establishment of Afghan power under Sher Shah Suri; administrative reforms.

UNIT III

7. The Mughal Empire: Central and Provincial administration; land revenue system.
8. The Mughal Empire: Mansabdari system; Jagirdari System.
9. Debates on the Decline of Mughal Empire.

UNIT IV

10. The Rise of the Marathas: Conquests of Shivaji; administration.
11. Evolution and main features: Bhakti movement; Sufism.

12. MAP:

- (i) Important Historical places: Lahore, Delhi, Agra, Mathura, Fatehpur Sikri, Chittor, Jaipur, Udaipur, Panipat, Lucknow, Ahmednagar, Poona, Surat, Golkonda, Bijapur, Daulatabad.
- (ii) Extent of Empire under Allauddin Khalji.
- (iii) Mughal Empire in 1707.

Specimen Map for Examination:**Reading List**

- Alam, Muzaffar and Sanjay Subrahmanyam, *The Mughal State 1526-1750*, New Delhi: Oxford University Press, 1998.
- Chandra, Satish, *Medieval India from Sultanate to the Mughals Part-I (1206-1526)*, New Delhi: Har-Anand Publications Pvt. Ltd., 2007.
- Chandra, Satish, *Medieval India from Sultanate to the Mughals, Part-II Mughal Empire (1526-1748)* New Delhi: Har-Anand Publications Pvt. Ltd., 2007.
- Chandra, Satish, *Essay on Medieval Indian History*, New Delhi : Oxford University Press, 1987.
- Chandra, Satish, *History of Medieval India*, Delhi : Orient Black Swan, 2007 (Hindi Medium).
- Habib, Irfan, *Medieval India; The Study of Civilization*, New Delhi : National Book Trust, India, 2008.
- Ray Chaudhri Tapan and Irfan Habib, *The Cambridge Economic History of India*, Vol. I, c 1200-c. 1750, New Delhi : Orient Longman, 2007.
- Rizvi, S.A.A, *The Wonder That Was India*, Vol. II 1200-1700, New Delhi ; Rupa & Co., 1996.
- Singh Navtej, *Madhkalin Bharat*, National Book Trust (Punjabi).

POLITICAL SCIENCE**SEMESTER – I****POLITICAL THEORY-I**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 hours |

Objectives : The objective of this paper is to introduce first year undergraduate students to some of the basic aspects, concepts and themes in the discipline of Political Science.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

- (a) There shall be **9** questions in all.
- (b) In Question No. One, 15 short answer type questions be asked spreading over whole syllabus to be answered in 10-20 words each. The students shall have to attempt 9 short answer type questions i.e. 2 marks of each. It shall carry 18 marks and shall be a compulsory question.
- (c) Rest of the paper shall contain 4 Units. Each Unit shall have two questions and the candidates shall be given internal choice. The candidates shall attempt one question from each Unit i.e. 4 in all of 18 marks each.
- (d) For private and reappear candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (d) in the question paper.

Unit-I

1. *Political Science* : Meaning, Definition and Scope.
2. Relationship of Political Science with Economics, History and Sociology.

Unit-II

1. *The State* : Definition, Elements and its Distinction from Government and Society.
2. *Theories of the Origin of State* : Social Contract, Historical/Evolutionary.

Unit-III

1. *State* : Liberal, Marxian and Gandhian View.
2. *Welfare State* : Liberal and Socialist Perspective.

Unit-IV

1. *Sovereignty* : Definition, Attributes/ Characteristics and Types.
2. *Theories of Sovereignty* : Monistic and Pluralistic.
3. *Political System* : a) Meaning & Characteristics.
Political System : b) *Functions according to David Easton & Almond & Powell.*

Books Recommended :

1. J.C. Johri : *Principles of Modern Political Science*, Sterling Publishers, New Delhi, 2009.
2. A.C. Kapoor : *Principles of Political Science*, S. Chand & Company, New Delhi, 2009.
3. O.P. Gauba : *An Introduction to Political Theory*, Macmillan India Ltd., New Delhi, 2009.
4. Andrew Heywood : *Political Theory : An Introduction*, Third Edition, Palgrave MacMillan, 2004.
5. Robert A. Dahl & Bruce S. Finebric Kner : *Modern Political Analysis*, Sixth Edition Pearson, Education, 2003.
6. Frank Bealey, Richard Chapman and Michael Sheehan : *Elements in Political Science*, Edinburgh University Press, Edinburgh, 1999.
7. Andrew Heywood : *Political Theory : An Introduction*, MacMillan Press, London, 1999.
8. Aron I. Skoble & Fiber R. Maclian (eds.) : *Political Philosophy : Essential Selections*, Pearson Education, 1999.
9. Andrew Heywood : *Politics*, Macmillan, London, 1997.
10. M.P. Jain : *Political Theory*, Authors Guild Publication, Delhi (Punjabi & Hindi) 1990.
11. S.P. Verma : *Modern Political Theory*, General Publishing House, New Delhi. 1983.

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POLITICAL SCIENCE

SEMESTER – II

POLITICAL THEORY-II

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 hours |

Objectives : The aim of this paper is to deepen and expand the knowledge of the student in Political Science. It introduces higher level concepts and themes in political theory. It will provide students with the tools to engage with some key political issues of our times.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

- (a) There shall be **9** questions in all.
- (b) In Question No. One, 15 short answer type questions be asked spreading over whole syllabus to be answered in 10-20 words each. The students shall have to attempt 9 short answer type questions i.e. 2 marks of each. It shall carry 18 marks and shall be a compulsory question.
- (c) Rest of the paper shall contain 4 Units. Each Unit shall have two questions and the candidates shall be given internal choice. The candidates shall attempt one question from each Unit i.e. 4 in all of 18 marks each.
- (d) For private and reappear candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (d) in the question paper.

Unit-I

1. *Power, Authority, Legitimacy* : Meaning and Characteristics.
2. *Political Culture* : Meaning, Characteristics and Types.
3. *Political Socialisation* : Meaning, Characteristics and Agencies.

Unit-II

1. *Rights & Duties* : Meaning, Types and Co-relation between the two.
2. *Universal Declaration of Human Rights*: Meaning of Human Rights, Nature and Characteristics.

Unit-III

1. *Liberty* : Meaning, Types & its Safeguards.
2. *Equality* : Meaning, Types and Relationship between Liberty and Equality.
3. *Justice* : Meaning and its various Dimensions.

Unit-IV

1. *Social Change* : Meaning, Characteristics and Factors.
2. *Democracy* : Meaning, types, necessary conditions for the success of Democracy.
3. *Theories of Democracy*: Elite and Marxian.

Books Recommended :

1. J.C. Johri : *Principles of Modern Political Science*, Sterling Publishers, New Delhi, 2009.
2. A.C. Kapoor : *Principles of Political Science*, S. Chand & Company, New Delhi, 2009.
3. O.P. Gauba : *An Introduction to Political Theory*, MacMillan India Ltd., New Delhi, 2009.
4. Andrew Heywood : *Political Theory : An Introduction*, Third Edition, Palgrave MacMillan, 2004.
5. Robert A. Dahl & Bruce S. Finebric Kner : *Modern Political Analysis*, Sixth Edition Pearson, Education, 2003.
6. Frank Bealey, Richard Chapman and Michael Sheehan : *Elements in Political Science*, Edinburgh University Press, Edinburgh, 1999.
7. Andrew Heywood : *Political Theory : An Introduction*, MacMillan Press, London, 1999.
8. Aron I. Skoble & Fiber R. Maclian (eds.) : *Political Philosophy, Essential Selections*, Pearson Education, 1999.
9. Andrew Heywood : *Politics*, Macmillan, London, 1997.
10. M.P. Jain : *Political Theory*, Authors Guild Publication, Delhi (Punjabi & Hindi) 1990.
11. S.P. Verma : *Modern Political Theory*, General Publishing House, New Delhi, 1983.

ECONOMICS

SEMESTER – I

Paper : MICRO ECONOMICS

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 hours |

Course Objective :

Microeconomics is concerned with the analysis of economic phenomena from the perspective of the individual. The course covers the basic concepts and tools needed to undertake the analysis of such problems that arise due to the law of scarcity. The course also aims at introduction of the functioning of competitive and noncompetitive product markets and performance of the markets for resources. The students are expected to develop rudimentary understanding of how and why consumers, firms, and markets in the economy function the way they do.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

The syllabus has been divided into four units.

- (i) There shall be **9** questions in all. All questions carry equal marks. The first question shall be short answer type containing **12** short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any **9** short answer type questions i.e. 2 marks of each. It shall carry 18 marks and shall be **compulsory** question. Rest of the paper shall contain **4** Units. Each Unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (ii) in the question paper.

Unit-I

Introduction : Definition, Meaning, Nature and Scope of Economics.

Theory of Demand and consumer Behaviour : Utility Analysis and Indifference Curve Analysis. Law of Demand and its Exceptions, Elasticity of Demand and its measurement, Consumer Surplus and its measurement.

Unit-II

Theory of Production and Costs: Concept, Law of Variable Proportions and Laws of Returns to Scale, Cost Concepts and Cost Curves in Short and Long periods (Traditional Theory of Costs).

Market Forms and Revenue: Behaviour of Average Revenue and Marginal Revenue under Perfect Competition and Imperfect Competition. Relationship between Average Revenue, Marginal Revenue and Elasticity of Demand.

Unit-III

Price and Output Determination: Price and Output Determination of the Firm and Industry under Perfect Competition, Monopoly and Monopolistic Competition in Short and Long run, Concept of Discriminating Monopoly.

Unit-IV

Distribution: Marginal Productivity and Modern Theories of Wage Determination, Ricardian and Modern Theories of Rent. Classical and Loanable Funds Theory of Interest, Risk and Uncertainty theories of Profit.

Recommended Readings:

1. Chaudhary, Kalyanjit Roy(2012) : Modern Micro Economics, Vol. I & II Bookland Publishers, New Delhi.
2. Chopra, P.N., Singh, Joginder & Grewal, P.S. (Punjabi Medium) (Latest Edition) : Price Theory and Distribution, Kalyani Publishers, Ludhiana.
3. Lipsey, R.G. & Crystal, K.A.(2011) : Principles of Economics, Oxford University Press, New Delhi.
4. Samuelson, P.A. (trans. Piar Singh) (1972) : Arth-Shastar Ek Prarmbhik Vishleshan, Punjabi University, Patiala
5. Stonier, A.W.. & Hague, D.C. (2005) : A Text Book of Economic Theory.

Supplementary Readings:

1. Ahuja, H.. (2012) : Advanced Economic Theory, S.Chand & Co., New Delhi.
2. Chopra, P.N.(2012) : Micro Economics Theory and Welfare Economics, Kalyani Publishers, New Delhi.
3. Dwivedi, D.N. (2012) : Microeconomics-Theory and Applications, Pearson Education Delhi.
4. Pindyck, Robert, S., Rubinfeld Dainel, L. and Mehta, P.L. (2013) : Microeconomics, Prentice Hall of India, New Delhi.
5. Ray, N.C. (1980) : An Introduction to Microeconomics, The Macmillan, New Delhi.
6. Robinson, John (Trans.) (Latest Edition) : Apuran Prityogita Di Arhiki, Punjabi University, Patiala.
7. Salvatore, D (2009) : Micro Economics: Theory & Applications, Oxford University Press, New York.
8. Singh, H.K. Manmohan (Trans Vashisht, Om Parkash) (1971) : Mang Sidhant Ate Mishrat Arth-Vivstha Vich Arthik Ganana, Punjabi University, Patiala.

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ECONOMICS

SEMESTER – II

Paper : MACRO ECONOMICS

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 hours |

Course Objective:

This paper aims to familiarize the student with the generally accepted principles of macroeconomics. It deals with aggregates i.e. consumers as a whole, producers as a whole, exporters and importers as a whole, the effects of government spending and taxation, and the monetary policy of the central bank. The course includes the basic theories of determination of income, consumption, investment, employment, money and interest, inflation, Monetary and Fiscal policies, and business cycles.

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES:

The syllabus has been divided into four units.

- (i) There shall be **9** questions in all. All questions carry equal marks. The first question shall be short answer type containing **12** short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any **9** short answer type question i.e. 2 marks of each. It shall carry 18 marks and shall be **compulsory** question. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidate shall be given internal choice i.e. the candidates shall attempt one question from each unit – 4 in all.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (ii) in the question paper.

Unit-I

Introduction: Nature, Meaning and Scope of Macro-Economics.

Consumption Function:

Average and Marginal Propensity to Consume, Keynes' Psychological Law of Consumption.

Investment Function:

Types of Investment, Investment Demand Schedule and Factors Affecting Investment Decisions, Marginal Efficiency of Capital, Static and Dynamic Multiplier.

Unit-II

Determination of Income and Employment:

Classical and Keynesian Theories of Income, Output and Employment, Say's Law of Markets. Principle of Effective Demand.

Unit-III

Money and Banking:

Money : Definition, Functions and Role

Quantity Theory of Money: Fisher's Equation and Cambridge Equation, Keynesian Liquidity Preference Theory.

Banking: Major Functions of Commercial Banks and Process of Credit Creation.

Unit-IV*Inflation and Macro-Economic Policies:*

Cost-push and Demand-pull Theories of Inflation, Measures to Control Inflation. Monetary and Fiscal Policies for Stabilization.

Trade Cycle: Meaning and Phases.

Recommended Readings:

1. Dernburg, T.F. & McDougal, D.M.(1983) : Macro Economics, McGraw Hill, New York.
2. Ghuman, Ranjit Singh (latest edition) : Antar-Rashtriya Arth Vigyan, Punjabi University, Patiala.
3. Shapiro, E. (1996) : Macroeconomic Analysis, Galgotia Pub.(P) Ltd., New Delhi.
4. Sharma, O.P. (Punjabi Medium) (latest edition) : Macro Economics, Punjabi University, Patiala.
5. Vaish, M.C. (2010) : Macro Economic Theory, Oxford University, Press, New Delhi.

Supplementary Readings:

1. Ackley, Gardner (1985) : Macro Economic Theory, McMillan, New York.
 2. Ahuja, H.L. (2004) : Macroeconomics Theory and Policy, S.Chand Pub. New Delhi.
 3. Baird, C.W. (1982) : Elements of Modern Economics, West Publishing Company.
 4. Dwivedi, D.N. (2012) : Macroeconomics-Theory and Policy, Tata McGraw Hill Publication House, New Delhi.
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SOCIOLOGY

SEMESTER - I

FUNDAMENTALS OF SOCIOLOGY

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

- (i) For written paper, the students will be required to attempt **five** questions in all. Question No. I will be **compulsory** comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt **nine** short answer type questions out of 12, i.e. $9 \times 2 = 18$ marks.
In addition to it, Question Nos. II to IX will consist of long answer (essay type) questions, two questions from each Unit with internal choice carrying 18 marks each i.e. $4 \times 18 = 72$ marks. .
- (ii) On an average, 15 hours are to be devoted for each Unit.
- (iii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (iii) in the question paper.

Objective :

This paper aims at introducing Fundamentals of Sociology to the beginners of the subject, the basic understanding about Sociology as a discipline. Study of various terms, concepts and processes will help students in formulating a Sociological Viewpoint and an easy comprehension of the discipline at later stages.

Course Content :

Unit-I

Introduction to Sociology: Origin and Development; Nature and Significance.

Relationship of Sociology with other Social Sciences –Anthropology, History and Psychology.

Unit-II

Understanding Society: Meaning, Characteristics, Theories of Origin of Society – Organic and Social-Contract. Relationship between Individual and Society.

Social Groups - Meaning, Characteristics and Classification Primary and Secondary Groups Ingroups & Outgroups, Reference Group.

Unit-III

Culture: Meaning and Features, Culture and Civilization, Cultural Lag, Acculturation, Assimilation, Cultural Pluralism.

Dimensions of Culture: Cultural Trait, Cultural Patterns, Cultural Complexes, Cultural Relativism.

Unit-IV

Socialization: Meaning, Stages, Agencies and Theories of Mead and Cooley.

Social Control: Meaning, Types and Agencies – Formal and Informal

Essential Readings:

1. *Bhushan Vidya & Sachdeva : An Introduction of Sociology Kitab Maaal, Allahabad D.D. (2014)*
2. *Bottomore, T.B. (1975) : Introduction to Sociology, Bombay : Blackie and Sons.*
3. *Bottomore, T.B. (1975) : Sociology : A Guide to Problems and Literature (Hindi and English), Bombay : Blackie and Sons.*
4. *Davis, Kingsley (1978) : Human Society, London : MacMillan Company.*
5. *Dube, S.C. (1990) : Understanding Society - A Text Book, NCERT.*
6. *Maciver, R.M. and C.H. : Society, London : MacMillan Company.*
Page
7. *Macionis, John, J. (2005) : Society: The Basics, New York : Prentice Hall.*
8. *Madhurima (2015) : Readings in Sociology – Semester-I, Jalandhar : New Academic Publishing House (All Mediums).*
9. *Rao, Shankar, C.N. (2013) : Sociology—Primary Principles of Sociology. S.S. Chand and Company Ltd.*
10. *Sharma, R.N. (2001) : Samajshastra Ke Sidhant, New Delhi: Atlantic Publishers.*

Further Readings :

1. *Broom, L. and P. Selznick : Sociology, New York : Harper and Row. (1968)*
2. *Berger, Peter L. (1998) : Invitation to Sociology : A Humanistic Perspective, U.S.A. : Pelican Books.*
3. *Giddens, Anthony : Sociology : Seventh Edition, Polity press*
Sutton Philip M (2013)
4. *Haralambos, M. (2010) : Sociology : Themes & Perspectives, New Delhi : Oxford Heald R.M. University Press.*
5. *Harlombos & Holborn : Sociology : Themes & Perspectives Collins Education E Editing (2014) Work*
6. *Schaefer, Richard, T. and Robert P. Lamm (1999) : Sociology, New Delhi : Tata-McGraw Hill.*

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SOCIOLOGY

SEMESTER - II

SOCIOLOGY STRATIFICATION

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

- (i) For written paper, the students will be required to attempt **five** questions in all. Question No. I will be **compulsory** comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt **nine** short answer type questions out of 12, i.e. $9 \times 2 = 18$ marks.
In addition to it, Question Nos. II to IX will consist of long answer (essay type) questions, two questions from each Unit with internal choice carrying 18 marks each i.e. $4 \times 18 = 72$ marks. .
- (ii) On an average, 15 hours are to be devoted for each Unit.
- (iii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (iii) in the question paper.

Objective :

All over the world, social groups are differentiated from one another and often ranked in terms of certain criteria. In this paper, students are exposed to the theoretical understanding of social stratification. In the Indian context, it is pertinent to apprise the students of the concept of social mobility and various factors that contribute to it. The major purpose of this course is to prepare the students to understand the hierarchical structure of groups in various societies and help them understand the social mobility.

Course Content

Unit-I

Social Stratification – Meaning, feature and functions; Inequalities – Social and Natural.
Elements : Differentiation, Hierarchy, Ranking, Reward, Evaluation.

Unit-II

Theories of Social Stratification :
Functionalist – Davis and Moore.
Conflict – Marx.
Class, Status, Party – Weber.

Unit-III

Forms of Social stratification: Caste, Class, Race and Gender. Interface between caste and class.

Unit-IV

Social Mobility – Meaning, types, factors.
Indicators – Education, Occupation, Income.

Essential Readings :

1. Bendix, R. & Lipset, S.M. (1974) : *Class, Status & Power : Social Stratification in Comparative Perspective*, London : Routledge & Kegan Paul.
2. Ghurye, G.S. (1983) : *Caste, Class and Occupation*, Bombay : Popular Prakashan.
3. Giddens, Anthony (2001) : *Sociology : A Text Book for the Nineties*, London : Polity.
4. Haralambos, M. (1998) : *Sociology : Themes and Perspectives*, New Delhi : Oxford University Press.
5. Macionis, John J. (2005) : *Society : The Basics*, New York : Prentice Hall.
6. Sharma, K.L. (1980) : *Essays in Social Stratification*, Jaipur : Rawat.
7. Tumin, M. (1987) : *Social Stratification*, New Delhi : Prentice Hall.
8. Sharma K.L. (2009) : *Social Inequality in India*, Jaipur Rawat Publication

Further Readings :

1. Beteille, Andre (ed.) (1978) : *Social Inequality*, Auckland : Penguin Books.
2. Beteille, Andre (1996) : "Varna & Jati", *Sociological Bulletin*, Vol. 45, No. 1 (March) Pages 15-27.
3. Culvert (1982) : *The Concept of Class*, London : Hutchinson.
4. Gupta, Dipankar (2008) : *Social Stratification*, New Delhi : Oxford University Press.
5. Hughes, John *et al* (1995) : *Understanding Classical Sociology*, Marx, Weber & Durkheim, London : Sage.
6. Richardson, C.J. (1977) : *Contemporary Social Mobility*, L and Francies Printer.
7. Inglis David & John Bone (ed) (2006) : *Social Stratification Dimensions of Social Stratification Caste ethnicity & Gender* Taylor & Francis
8. Levine, Rhona (ed) (2006) : *Social class & Stratification* Rowman & Littlefield Publishers.
9. Singh, Yogendra, (2006) : *Social Stratification and Change in India*, New Delhi
10. Ritzer, George (2012) : *Sociological Theory*, Manohar Publication Tata McGraw Hill Education Private Limited, New Delhi
11. Mac Ion's John J, Plummmer Ken, (2014) : *Sociology: A Global Introduction*, New Delhi, Pearson
12. Samdna Peter (1990) : *Social class & Stratification* Routledge, N.Y.
13. Giddens, Anthony & Sutton W.Philip (2007) : *Sociology: Introductory Readings* Polity Press, Malden: M.A.
14. Schaefer, Richard, T. (2010) : *Sociology: A brief Introductions* Tata Mcgraw Hill., N.Y.

PUBLIC ADMINISTRATION

SEMESTER - I

PAPER : ADMINISTRATIVE THEORY

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 03 Hours |

Objective of the Paper :

The objective of this paper is to acquaint the student with the basic concepts and principles of public administration. In addition, the paper would trace the evolution of public administration and its relationship with other social sciences.

INSTRUCTIONS FOR PAPER-SETTERS AND CANDIDATES :

- For Private/Centre for Distance and Online Education (CDOE) students, who have not been assessed earlier for the internal assessment, the marks secured by them in the paper will proportionately be increased in lieu of the internal assessment.

The Paper-Setter must put a note in question paper in this regard.

- The candidate shall attempt 5 questions in all (one compulsory and one each from four units). The first compulsory question shall comprise of 12 short-answer type questions, covering the whole syllabus, to be answered in 25-30 words each, out of which the candidate would be required to attempt any 9. Each question will carry 2 marks. Rest of the paper shall contain 4 units, each unit having two questions, out of which the candidate would be required to attempt one. Each question will carry 18 marks.

Unit-I

Meaning, Nature, Scope and Significance of Public Administration; Public and Private Administration; Public Administration as a Science or an Art; Relationship of Public Administration with other Social Sciences; Evolution of Public Administration since 1887.

Unit-II

Organization: Meaning, Types: Formal and Informal Organization

Forms of Organization: Department, Public Corporation, Government Company.

Principles of Organization: Hierarchy, Span of Control, Unity of Command, Authority and Responsibility.

Unit-III

Chief Executive- Types, functions and Role

Line, Staff and Auxiliary Agencies

Centralisation and Decentralisation

Decision Making: Meaning, types and process

Unit-IV

Coordination: Concept, Methods and Hindrances

Communication: Concept, Process and Barriers

Supervision: Concept and Methods

Leadership: Concept, Styles, Qualities of a Good Administrator

Essential Readings

- Awasthi, A. and Maheshwari, S.R. (2011). *Public Administration*. Agra: Laxmi Narain Aggarwal Publication.
- Basu, Rumki (1990). *Introduction to Public Administration*. New Delhi: Sterling Publishers.
- Basu, Rumki (2008). *Public Administration: Theory and Concept*. New Delhi: Sterling Publishers.
- Bhattacharya, Mohit (2002). *Public Administration: Structure, Process and Behaviour*. Calcutta: World Press.
- Bhattacharya, Mohit (2012). *New Horizons of Public Administration*. New Delhi: Jawahar Publishers & Distributers.
- Fadia, B.L. and Fadia, Kuldeep (2011). *Public Administration: Administrative Theories and Concepts*. Agra: Sahitya Bhawan Publication
- Goel, S.L. (2003). *Public Administration: Theory and Practice*. New Delhi: Deep & Deep Publishers.
- Mahajan, Chander Mohan. *Elements of Public Administration*, Patiala: Publication Bureau (Panjabi) Punjabi University.
- Nigro, Felix A. and Nigro, Llyod G. (1970). *Modern Public Administration*. New York: Harper and Row.
- Ojha, Pundrik and Sharma, Kiran (2009). *Public Administration: Theory and Practice* Jalandhar: Raj Publishers.
- Puri, K.K. (2004). *Elements of Public Administration*. Jalandhar: Bharat Prakash
- Sapru, R.K. (2008). *Administrative Theories and Management Thought*. New Delhi: Prentice-Hall of India.
- Sharma, M.P. and Sadana, B.L. (2009). *Public Administration in Theory and Practice*. Allahabad: Kitab Mahal.
- Singh, Sahib and Singh, Swinder (2015). *Public Administration: Theory and Practice*. Jalandhar: New Academic Publishing Co.

Further Readings

- Gladden, E.N. (1964). *An Introduction to Public Administration*. London: Staples Press.
- Golembiewski, Robert T. (1977). *Public Administration as a Developing Discipline*. New York: Marcel Dekker.
- Henry, Nicholas (2012). *Public Administration and Public Affairs (12th ed.)*. New Delhi: Prentice Hall of India Pvt. Ltd.
- Koontz, H. and O' Donnel, Cyril (1972). *Principles of Management: An Analysis of Managerial Functions*. New York: McGraw Hill
- Naidu, S.P. (2005). *Public Administration concept and Theories*. New Delhi, New Age International Publication.
- Ojha, Pundrik and Sharma, Kiran (2012). *Public Administration: Theory and Practice*. Jalandhar: Raj Publishers.
- Pfiffner John, M. and Presthus, R.Vance (1953). *Public Administration*. New York: Ronald Press.
- Pfiffner, John M. and Sherwood, Frank P. (1960). *Administrative Organization*. New Delhi: Prentice Hall.
- Phillip, A.T. and Rao. K.H. Sivaji (1989). *Indian Government and Politics*. New Delhi: Sterling Publishers.
- Self, Peter. (1972). *Administrative Theories and Politics*. London: George Allen and Unwin.

PUBLIC ADMINISTRATION

SEMESTER - II

PAPER : : INDIAN ADMINISTRATION

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objective of the Paper:

The objective of this paper is to give the student an in-depth understanding of various aspects of Indian administration particularly the functioning of executive, legislature and judiciary at the union and state levels. It would also make them aware of the bureaucratic set up at these levels.

INSTRUCTIONS FOR PAPER-SETTERS AND CANDIDATES

➤ For Private/Centre for Distance and Online Education (CDOE) students, who have not been assessed earlier for the internal assessment, the marks secured by them in the paper will proportionately be increased in lieu of the internal assessment.

The Paper-Setter must put a note in question paper in this regard.

➤ The candidate shall attempt 5 questions in all (one compulsory and one each from four units). The first compulsory question shall comprise of 12 short-answer type questions, covering the whole syllabus, to be answered in 25-30 words each, out of which the candidate would be required to attempt any 9. Each question will carry 2 marks. Rest of the paper shall contain 4 units, each unit having two questions, out of which the candidate would be required to attempt one. Each question will carry 18 marks.

Unit-I

Features of Indian Administration

Union Executive: President; Prime Minister, and Council of Ministers

Union Legislature: Lok Sabha – Composition, Functions and Role: Rajya Sabha – Composition, Functions and Role

Unit-II

State Executive: Governor, Chief Minister and State Council of Ministers

State-Legislature: Legislative Assembly and Legislative Council – Composition, Functions and Role

Centre-State Relations: Administrative and Legislative

Unit-III

Union and State Judiciary: Supreme Court – Composition, Functions and Role

High Court – Composition, Functions and Role

Control over Administration: Legislative and Judicial

Delegated Legislation: Meaning, Reasons and Safeguards

Unit-IV

Cabinet Secretariat– Composition, Functions and Role
State Secretariat– Composition, Functions and Role
District Administration: Structure and Functions

Essential Readings

Arora, Ramesh. K and Chaturvedi, Geeta (2000). *Indian Public Administration: Institution and Issues*. New Delhi: WishwasPrakashan.

Awasthi, A. (1980). *Central Administration*. New Delhi: Tata McGraw Hill.

Fadia, B.L. and Fadia, Kuldeep (2011). *Indian Administration*. Agra: SahityaBhawan Publication.

Maheshwari, S.R. (1979). *State Government in India*. New Delhi: Mac. Millan.

Maheshwari, S.R. (2001). *Indian Administration*. New Delhi: Orient Longman.

Puri, K.K. (2006). *Indian Administration*. Jalandhar: Bharat Prakashan

Sapru, R.K. (2001). *Indian Administration*. Ludhiana: Kalyani Publishers.

Sharma, P.D. and Sharma, B.M. (2009). *Indian Administration Retrospect and Prospect*. Jaipur: Rawat Publication.

Singh, Sahib and Singh, Swinder (2007). *Public Administration: Theory and Practice*. Jalandhar: New Academic Publishing Co.

Further Readings

Government of India (2009). *Organisational Structure of Government of India - Fifteenth Report*. New Delhi: Second Administrative Reforms Commission.

Government of India (2009). *State and District Administration - Thirteenth Report*. New Delhi: Second Administrative Reforms Commission.

Pylee, M.V. (1965). *Constitutional Government in India*. Bombay: Asia Publishing House

PHILOSOPHY**SEMESTER – I****Outlines of Tests, Syllabi and Courses of Reading****Paper : ELEMENTS OF PHILOSOPHY**

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |
| Lectures | : 75 |

AIMS & OBJECTIVES :

The aim of this paper is to familiarize the students with the subject, its branches, problems and methods. The contents of this paper provide the students with a wider canvas about tackling day-to-day problems from a larger perspective.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

- (i) There shall be 9 questions in all.
- (ii) The first question shall be of short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 25-30 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks of each. It shall carry 18 marks and shall be compulsory question.
- (iii) Rest of the paper shall contain 4 Units and each Unit shall have two questions with internal choice. The candidates shall attempt one question from each Unit i.e. – 4 in all.
- (iv) For private and reappear candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (iv) in the question paper.

Unit-I

1. Nature of Philosophy (Introduction).
2. Problems of Philosophy with special focus on social equality, self knowledge and rationality.
3. Methods of Philosophy : Critical and Reflective approach.

Unit-II

4. Introduction to main branches of Philosophy : Metaphysics, Epistemology, Ethics, Social Philosophy and Aesthetics (The interrelation between the branches will be focused).
5. Relation of Philosophy with Science and Religion.
6. Nature of Art and Aesthetic Experience

Unit-III

7. Ethics and Social Philosophy : Good life and Good Society.
8. Morality in Public and Private life.
9. Individual and Society.

Unit-IV

11. Justice : Virtue, Fairness, Equality.
12. Tolerance : Respect for Cultural Pluralism and Social diversities.
13. Caste System in India : Jyoti Ba Phule, Gandhi, Ambedkar.

Essential Readings :

1. G.L. Chandramani : Hitopadesa, Jaico Publishing House, 1995.
2. Mandukya Upanisad, Yamuna Prasad Tripathi : Varanasi Bhartiya Vidya Prakashan, 1966.
3. Narvane, V.S. : Modern Indian Thought, Orient Longman Publishers, 1978.
4. Titus, H.H. : Living Issues in Philosophy, Oxford University, 1993.
5. Amartya Sen : The Idea of Justice, The Belknap Press of Harvard University Press Cambridge, Massachusetts, 2009.
6. Calvin Lewis Pinchin : Issues in Philosophy, Palgrave Macmillan, London, 2nd Ed. December, 2004.
7. Morris Weitz (ed.) : Problems of Aesthetics : An Introductory Book of Readings, Macmillan, New York, 1970.

Suggested Readings :

1. Aesop's Fables : Penguin Books, Harmondsworth, 1998.
 2. Dr. B.R. Ambedkar : Annihilation of Caste, Navayana Publishers, New Delhi, 1936.
 3. Jyotiba Phule : Gulamgiri (The Slavery), Hindi Translator S. Murti, Cultural Publishers, Lucknow, 3rd Ed. 1994.
 4. Narayana Hitopadesa : Translated from Sanskrit by A.B.D. Haksar, Penguin Books, 1998.
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PHILOSOPHY

SEMESTER-II

Paper : LOGIC

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |
| Lectures | : 75 |

AIMS AND OBJECTIVES :

This paper aims at a systematic study of the Science of Logic which is the most effective means of developing logical abstract thinking in us. It tries to provide students with a mastery of Logic so that they can think in clearer terms and be less prone to error.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

- (i) There shall be **9** questions in all.
- (ii) The first question shall be of short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 25-30 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks of each. It shall carry 18 marks and shall be compulsory question.
- (iii) Rest of the paper shall contain 4 Units and each Unit shall have two questions with internal choice. The candidate shall attempt one question from each Unit i.e. – 4 in all.
- (iv) For private and reappear candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (iv) in the question paper.

Unit-I

1. Nature, Scope and Utility of Logic.
2. Terms and Propositions : Kinds of Terms, Connotation and Denotation of Terms. Aristotle's classification of proposition (Square of Opposition—Contradictories), Contraries, Sub-Contraries and Sub-Alterns.

Unit-II

3. Laws of Thought : Identity, Contradiction, Excluded Middle and Sufficient Reason.
4. Argument : Immediate Inference and Mediate Inference. Some kinds of immediate inference : Conversion, Obversion, Contraposition, Inversion.

Unit-III

5. Categorical Syllogism : The Structure and Rules of validity of Pure Categorical Syllogism, Figures and moods, Fallacies of Syllogism.
6. Introduction to Truth-Tables, Negation, Conjunction, Disjunction, Implications and Equivalences.

Unit-IV

7. Nature of Induction : Distinction between Deduction and Induction.
8. Kinds of Induction.
9. Causation : Nature of Cause, Plurality of Causes.

Essential Readings :

1. Copi, I. M. : Introduction to Logic (N.Y., Macmillan, 1972, Hindi Translation available); London : Routledge and Kegan Paul.
2. Copi, Irvin M. : Introduction to Symbolic Logic (Prentice Hall of India), New Delhi, 1998.
3. Cohen and Nagel : Introduction to Logic and Scientific Method (Allied Publishers), New Delhi, 2000.

Suggested Readings :

1. Alice Ambrose, Morris Lazerowitz : Fundamentals of Symbolic Logic, revised ed., Holt, Rinehart and Winston, New York, 1962.
2. F.H. Bradley : The Principles of Logic, Oxford University Press, London, 1950.
3. John Dewey : Logic, Henry Holt and Company, New York, 1938.

PSYCHOLOGY

B.A. (GENERAL) FIRST YEAR EXAMINATION, 2023-24

SEMESTER-I

Paper : GENERAL PSYCHOLOGY-I

| | |
|---------------------|------------|
| Max. Marks | : 80 |
| Theory | : 70 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

There shall be **9** questions in all. The first question shall be short answer type containing 12 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 7 short answer type questions i.e. 2 marks of each. It shall carry 14 marks and shall be **Compulsory** question. Rest of the paper shall contain **4** Units. Each Unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all. Each question will carry 14 marks.

Objectives :

- (I) The course introduces to the students the general concepts and historical viewpoints in general psychology. The students would also get an understanding of the principles and theories in different areas like personality, motivation, intelligence, etc. The course also apprises them of the concept of growth and development and also introduces them to the elementary statistics.
- (II) Pedagogy of the Course Work :
80% Lectures (including expert lectures).
20% assignments, discussion and seminars and tests.

Unit I

Nature of Psychology, Goals and Branches of Psychology, Historical Evolution of Psychology, Development of Psychology in India.

Unit II

Emotions : Definition and Concept of Emotions, Types of Emotions, Theories of Emotions (James-Lange, Cannon Bard, Schacter-Singer Theory.), Introduction to Emotion Intelligence.

Unit III

Method of Psychology: Experimental Method, Observation Method.
Sampling Techniques, Survey Method.

Unit IV

Motivation: Definition, Nature, Concept. Types of Motives (Physiological, Psychological, Social): Theories of Motivation: Humanistic (Maslow), Need Theories (McClelland and Murray).

Note: The use of non-programmable calculators and statistical tables is allowed in the examination.

PSYCHOLOGY PRACTICALS

Max. Marks : 20
Time : 3 Hrs.

Four practicals have to be performed out of six :

1. Level of Aspiration.
2. Facial Expressions in Emotions
3. Public Opinion Survey.
4. Measurement of Motivation
5. Zeigarnik Effect
6. Familiarization of any five apparatuses

Suggested Readings:

1. Baron, R.A. (2003). Psychology, New Delhi : Pearson Education.
2. Ciccarelli, D. (2008). Introduction to Psychology, Delhi: Pearson.
3. Das, J.P. (1998). The Working Mind: An Introduction to Psychology. New Delhi: Sage.
4. Feldman, R.S. (2014). Understanding Psychology. New Delhi : Tata McGraw Hill.
5. Garrett, H.E. (1966). Statistics in Psychology and Education, New Delhi : Vakils, Feffer and Simons.
6. Kerlinger, F. N. (1964). Foundations of Behavioural Research. New York: Rinehart and Winston.
7. Morgan, C.T., King, R.A., J.R. Weisz and Schopler, J. (1987). Introduction to Psychology, Singapore: McGraw, Hill.

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PSYCHOLOGY

SEMESTER –II

Paper : GENERAL PSYCHOLOGY-II

| | | |
|---------------------|---|----------|
| Max. Marks | : | 80 |
| Theory | : | 70 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

There shall be **9** questions in all. The first question shall be short answer type containing 12 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 7 short answer type questions i.e. 2 marks of each. It shall carry 14 marks and shall be **Compulsory** question. Rest of the paper shall contain **4** Units. Each Unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all. Each question will carry 14 marks.

Objectives :

- (I) The course introduces to the students the general concepts and historical viewpoints in general psychology. The students would also get an understanding of the principles and theories in different areas like personality, motivation, intelligence, etc. The course also appraises them of the concept of growth and development and also introduces them to the elementary statistics.
- (II) Pedagogy of the Course Work :
80% Lectures (including expert lectures).
20% assignments, discussion and seminars and tests.

Unit I

Personality – Concept, Trait Theories (Eysenck, Costa and MCrae), Psychoanalytic Theory (Freud).

Humanistic Theory (Rogers). Measurement of Personality, (Self Report Measures, Projective Techniques and Behavioural Assessment)

Unit II

Development: Concept, Heredity and Environmental Influences. Theories of Development : Erickson, Psychosocial Theory, Piaget’s theory of Cognitive Development.

Unit III

Intelligence : Concept, Theories of Intelligence: Spearman, Thurstone, Cattell, Guilford. Measurement of Intelligence (Verbal and Non Verbal Test and Individual and Group Tests).

Unit IV

Statistics: Graphical Representation of Data: Measures of Central Tendency and Variability.

Correlation - Meaning of Correlation, Rank Order and Product Moment-Correlation and Interpretation.

Note : The use of non-programmable calculators and statistical tables is allowed in the examination.

PSYCHOLOGY PRACTICALS

Max Marks : 20

Time : 3 Hrs.

Four practicals have to be performed out of the following :

1. Verbal Test of Intelligence
2. Non Verbal Test of Intelligence
3. Performance Test of Intelligence.
4. McCosta & Crae NEO Big Five Personality Inventory.
5. Interest Inventory.
6. Familiarization of any five apparatuses

Suggested Readings:

1. Baron, R.A. (2002). Psychology; New Delhi : Pearson Education.
2. Ciccarelli, D. (2008). Introduction to Psychology; Delhi: Pearson.
3. Das, J.P. (1998). The Working Mind: An Introduction to Psychology. New Delhi: Sage.
4. Feldman, R.S. (1996). Understanding Psychology, New Delhi : Tata McGraw Hill.
5. Garrett, H.E. (1966): Statistics in Psychology and Education; New Delhi Vakils, Feffer and Simons.
6. Guilford, J.P., and Fruchter, B. (1981). Fundamental Statistics in Psychology and Education Singapore: McGraw Hill.
7. Kerlinger, F. N. (1964).Foundations of Behavioural Research. New York: Holy, Tinvsty snf Eindyon.
8. Morgan, C.T., King, R.A., Weisz ,J.R. and Schopler, J. (1987). Introduction to Psychology, Singapore: McGraw, Hill.

GEOGRAPHY

SEMESTER - I

Paper-I : PHYSICAL GEOGRAPHY-I : Geomorphology

| | |
|---------------------|------------|
| Max. Marks | : 70 |
| Theory | : 60 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |

Objectives:

The course aims to familiarize the students with the fundamental concepts in physical geography, essentially geomorphology.

Course Content:

UNIT-I

Nature & Scope of Geography: Place of Physical Geography within the discipline of Geography, Divisions of Physical Geography (Geomorphology, Climatology, Oceanography and Biogeography). (8 lectures)

Interior of the Earth: Constitution, Isostasy, Continental Drift (with special reference to Wegener's Theory and Plate Tectonics). (12 lectures)

UNIT-II

Movements of the Earth : Orogenic and Epeirogenic (with special reference to Geosyncline theory); landforms resulting from forces of Compression and Tension; Earthquakes and Volcanoes (causes, types and distribution) (20 lectures)

UNIT-III

Rocks: Origin, classification and characteristics. (8 lectures)

Major Land Forms: Mountains, plateaus and plains in the world. (10 lectures)

UNIT-IV

Geomorphic Agents and Landscapes: Fluvial, Glacial, Aeolian, Coastal and Karst. (22 lectures)

- Note :**
1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 10 parts. The answer of each part should be in about 25 words. Each part will carry 2 marks (Total 20 marks).
 2. The whole syllabus will be divided into 4 Units. Eight questions will be set out of the whole syllabus, two from each Unit. The students will be required to attempt one question from each Unit. Each question will carry 10 marks (Total 40 marks). These will be in addition to the compulsory question.
 3. Special credit will be given to suitable use of maps and diagrams. Use of unmarked map stencils and colour pens/pencils are allowed.
 4. Internal assessment will be based on written assignments, snaptests, participation in discussion in the class, term papers, attendance etc.
 5. For CDOE, reappear/ improvement candidates(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned.

The paper-setter must put note(5) in the question paper

List of Readings :

Essential Readings:

1. Blij, H.J. De & Petor O. Muller : *Physical Geography of the Global Environment 4th Ed. Oxford University Press, 2013.*
2. Bryant, R.H. : *Physical Geography*, Rupa Publications India Pvt. Ltd., New Delhi, 2011.
3. Hussain, Majid : *Fundamentals of Physical Geography (5th Edition)*, Rawat Publication, Jaipur, 2018.
4. Hyndman, D. and D. Hyndman : *Natural Hazards and Disasters (5th Edition)*, Brooks/Cole Cengage Learning, Belmont, USA, 2016.
5. Khan, Nizamuddin : *An Introduction to Physical Geography*, Concept Publishing Company, New Delhi, 2001.
6. Lal, D.S. : *Physical Geography*, Sharda Pustak Bhawan, Allahabad, 2012.
7. Monkhouse, F.J. : *Principles of Physical Geography (1st Edition)*, Platinum Publishers, 2009.
8. Pal, Saroj K. : *Physical Geography of India : A Study in Regional Earth Sciences*, Orient Longman, Calcutta, 1998.
9. Petersen, J.F., D. Sack and R.E. Gabler : *Physical Geography (11th Edition)*, Brooks/Cole Cengage Learning, Belmont, USA, 2016.
10. Singh, Savindra : *Physical Geography*, Pravalika Publications, 2020.
11. Strahler, Alan H. : *Introducing Physical Geography, 6th Edition*, John Wiley, New York, 2016.

Further Readings:

1. Bunnett, R.B. : *Physical Geography in Diagrams,(4th GCSE Edition)*, Pearson Education, Noida, 2012.
2. Dayal,P. : *A Text Book Of Geomorphology*, Rajesh Publications, 2019.
3. Dury,G.H. : *The Face of the Earth (5th Revised Edition)*,Harper Collins Publishers Ltd, 1986.
4. Gass,I.G. : *Understanding the Earth*,The Artemis Press, Sussex,1973.
5. Gautam, Alka : *Geomorphology (6th ed.)*, Sharda Pustak Bhawan, Allahabad, 2015.
6. Kaur, Dhian : *The Earth*, Kalyani Publishers, Ludhiana, 2000.
7. Kale, V. and Gupta, A. : *Introduction to Geomorphology*,The Orient Blackswan Calcutta, 2018.
8. Mamoria, C.P. and Niati, J.L. : *Bhautic Bhoogol Ke Tatwa*(in Hindi), Agra, 1976.
9. Singh, Savindra : *Geomorphology*, Pravalika publications, 2019.
10. Sparks, B.W. : *Geomorphology*, Longman, London, 1986.
11. Thornbury, W.D. : *Principles of Geomorphology*, New Age International, 3rd. ed., 2018.

Pedagogy:

- Use of Audio-visual aids, maps, diagrams and other forms of illustrations especially in the Indian context are recommended.
- Relevant educational field trips must be arranged to illustrate the theory being taught.

Paper-II: CARTOGRAPHY-I

Max.Marks : 30

Time : 3Hours

Written paper of 3 hours duration at college level (except CDOE) : 20 marks

Viva and Practical Record(5+5) : 10 marks

Objective:

- To introduce the concept of maps and relevance of maps in Geography.
- To explain the elements of Map (Scale and Orientation) and steps in Map making.
- To introduce relief representation.

Course Content:**UNIT-I**

Maps: Brief history of map making and types of maps.

Geometry of the Earth: Latitude, Longitude (Time Zones and International Date Line), Size and Shape of the Earth. (3 lectures, 6 lab sessions)

UNIT-II

Scales: Methods of representing scale;

Methods of construction of Graphic scales: Plain, Comparative, Time and Diagonal.

Enlargement and Reduction of Maps: Graphic methods—Square and Similar Triangles.

(6 lectures, 12 Lab. sessions)

UNIT-III

Directions and Bearings: Plotting of a course, True North, Magnetic North, finding True North with the Pole star, watch and a rod; Bearing and its conversion. (6 lectures, 12 Lab. sessions)

UNIT-IV

Surveying: Meaning, Definition, Elements, Uses, Types, Chain and Tape survey: Open and Closed Traverse (6 lectures, 12 Lab. sessions)

Note :

1. The written and practical examination including viva-voce shall be conducted at the respective college itself except CDOE. However, the format of the question paper shall be uniform. A separate paper of 20 marks shall be prepared on the spot by the examiners from the prescribed syllabus.
2. Practical examination at the respective colleges shall be conducted by one internal and one external examiner. The external examiner shall be appointed by the Principal of the respective colleges in consultation with the senior most teacher of Geography in the college.
3. **For students of CDOE, a written theory paper for 20 marks shall be conducted by the University along with the University examination. A separate paper of 20 marks shall be prepared for CDOE students from the prescribed syllabus.**
4. A compulsory question containing 6 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 4 parts. The answer of each part should be in about 25 words. Each part will carry 1 mark (Total 4 Marks).
5. The whole syllabus has been divided into 4 Units. Eight questions will be set out of the whole syllabus, i.e. 2 from each Unit. Each question will carry 4 marks (Total 16 marks). The students will be required to attempt one question from each Unit. These will be in addition to the compulsory question.
6. Evaluation of Practical Record will be done at the time of viva-voce examination. A minimum of 15 sheets are to be prepared by the students. There will be no laboratory exercise at that time.
7. There will be no viva-voce examination for the candidates appearing through CDOE. They will be required to submit their Practical Note Book (Practical files) with the Centre for Distance and Online Education (Department of Geography) at least 10 days before the commencement of their examination. Their Note Books (Practical files) will be evaluated by two examiners (including at least one from the CDOE).

8. For the students of Centre for Distance and Online Education, there will be an internal assessment of 10 marks in lieu of the viva-voce examination.
9. A fresh practical note book shall be prepared by failed/improvement candidates.
10. For practical classes, the number of students in one group shall not exceed fifteen.
11. There will be 3 hours of teaching per week for this paper.
12. For CDOE, reappear/improvement candidates(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned.

The paper-setter must put note (12) in the question paper.

List of Readings

Essential Readings:

1. Dink, Phyllis: *Map Work*, Atma Ram & Sons, 1962.
2. Khullar, D.R.: *Essentials of Practical Geography (Hindi Medium)*, Kalyani Publications, 2015.
3. Khullar, D.R.: *Essentials of Practical Geography*, New Academic Publishing Co., 2017.
4. Mishra, R.P. & Ramesh, A. : *Fundamentals of Cartography (2nd Revised Edition)*, Concept Publishing,Co., New Delhi, 2014
5. Sarkar, Asish: *Practical Geography: A Systematic Approach (3rd Edition)*, Orient BlackSwan, Hyderabad, 2015.
6. Singh, Gopal :*Map work and Practical Geography (4th Edition)*, Vikas Publishing House Pvt.. Ltd., New Delhi, 2000.
7. Singh, R.L. :*Fundamentals Of Practical Geography*,ShardaPustakBhawan, 2018.

Further Readings:

1. Bagulia, A.M.: *Practical Geography*, Anmol Publications Pvt. Limited, New Delhi, 2007.
2. Monkhouse, F.J. & Wilkinson, H.R.: *Maps and Diagrams*, Methuen & Co., London, Third Edition, 1976.
3. Rather, G.M. : *A Text of Practical Geography*, Dilpreet Publishing House,2011.
4. Robinson, A.H., Morrison, J.L. &Others :*Elements of Cartography (Sixth Reprint Edition)*, JohnWiley & Sons, NewYork, 2016.

Pedagogy:

- The use of topographical sheets of Survey of India
- A well equipped cartographic laboratory with necessary instruments to prepare exercises.

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GEOGRAPHY

SEMESTER - II

Paper-III: PHYSICAL GEOGRAPHY-II: Climatology & Oceanography

| | |
|---------------------|------------|
| Max. Marks | : 70 |
| Theory | : 60 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |

Objectives:

- To acquaint the students with the elements and attributes of climatology and oceanography
- To underscore the role of climate in human life
- To emphasize the significance of oceans within the global environmental system

Course Content:

UNIT-I

| | |
|---|--------------|
| <i>Definition of Climatology:</i> Concepts of Climate and Weather, Nature and Scope of Climatology. | (2 Lectures) |
| <i>Climate:</i> Elements and Controls. | (4 lectures) |
| <i>Physical Structure of the Atmosphere:</i> Troposphere, Tropopause, Stratosphere, Ozonosphere, Mesosphere, Thermosphere and Exosphere (attributes of these layers). | (6 Lectures) |
| <i>Physical and Chemical Composition of the Atmosphere:</i> Dust particles, Vapour Particles, Active gases, Inert gases. | (2 Lectures) |
| <i>Insolation and Temperature:</i> Distribution of Insolation (horizontal); Distribution of Temperature (vertical, horizontal, annual, seasonal and diurnal) | (6 Lectures) |

UNIT-II

| | |
|---|--------------|
| <i>Atmospheric Pressure and Wind Distribution:</i> Atmospheric disturbances: Tropical Cyclones, Temperate Cyclones and Anti cyclones. | (8 Lectures) |
| <i>Atmospheric Moisture:</i> Condensation forms: cloud, dew, fog, frost and snow. Precipitation: forms and types, world patterns (spatial and seasonal). Introduction to Koppen's classification of world climate | (8 Lectures) |
| <i>Role of Climate in Human Life :</i> Atmospheric pollution and global warming: causes, consequences and measures of control | (4 lectures) |
| | (4 lectures) |

UNIT-III

| | |
|---|--------------|
| <i>Oceanography :</i> Definition, Nature and Scope | (5 lectures) |
| Topography of the Ocean Basins; Continental Shelf, Continental Slope, Abyssal Plain, Ridges, Deeps and Trenches | (5 lectures) |
| Temperature and Salinity of ocean waters: World patterns and controlling factors | (6 lectures) |

UNIT-IV

| | |
|--|---------------|
| <i>Movements of Oceanic Waters:</i> Waves, Tides and Currents; Surface currents of the oceans; Role of Ocean Currents in heat distribution over the globe. | (10 lectures) |
| <i>Marine Deposits and Corals:</i> Origin and types. | (10 lectures) |

- Note :**
1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 10 parts. The answer of each part should be about 25 words. Each part will carry 2 marks (Total 20 marks).
 2. The whole syllabus will be divided into 4 Units. Eight questions will be set out of the whole syllabus, two from each Unit. The students will be required to attempt one question from each Unit. Each question will carry 10 marks. These will be in addition to the compulsory question I.
 3. Special credit will be given to suitable use of maps and diagrams. Use of unmarked map stencils and colour pens/pencils are allowed.
 4. Internal assessment will be based on written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.
 5. For CDOE, reappear / improvement candidates(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their cases shall be of Maximum Marks allotted to the paper(s) concerned.

The paper-setter must put note (5) in the question paper.

Essential Readings :

1. Critchfield,H.J. : *General Climatology 4th Edition*,Prentice Hall of India Private Ltd., New Delhi,1983.
2. Frederick K.& others : *The Atmosphere: An Introduction to Meteorology* (13th Edition), Prentice Hall of India Edward J. TarbuckPvt. Ltd., New Delhi, 2015.
3. Hess Darrel, : *Mcknight's Physical Geography: A Landscape Appreciation*, Prentice Dennis G Tasa Hall India Learning Private Limited; 10th edition 2011).
4. Khan,Nizumuddin : *An Introduction to Physical Geography*,Concept, New Delhi,2001.
5. Lal,D.S. : *Climatology*,Sharda Pustak Bhawan,2011.
6. Sharma,R.C and Vatal,M : *Oceanography for Geographers*,Surjeet Publications, 2018.
7. Singh, Malkit : *Dimensions in Physical Geography*, Rasmeet Parkashan, Jalandhar 2012.
8. Singh,Savindra : *Climatology*,Pravalika Publication,2018.
9. Singh, savindra : *Oceanography*, Prayag Publication,2016.
10. Trewartha,G.T. : *An Introduction to Climate*(5th Revised edition), McGraw Hill Book Co., New Delhi, International Student Edition,1980.

Further Readings :

1. Bhutani, Smita : *Our Atmosphere*, Edited by R.C. Chandna, Kalyani Publishers, Ludhiana, Delhi, 2002.
2. Bunnnett, R.B. : *Physical Geography in Diagrams, (4th GCSE Edition)*, Pearson Education, Noida, 2012.
3. Gross, Grant M. : *Oceanography : A View of the Earth (7th Revised Edition)*, Prentice Hall, New Jersey, 1995.
4. Monkhouse, F.J. : *The Principles of Physical Geography*,(1st Edition), Platinum Publishers, 2009.
5. Pattersen, S. : *Introduction to Meteorology*, McGraw Hill Book Co., London, 2007
6. Stringer, E.T. : *Foundations of Climatology*, Surjeet Publications, Delhi, 1972.

Pedagogy:

- Conscious effort be made to make the students aware of the significance of climate and oceans to human life.
- Use of Slides, photographs and document aries on climates and oceans strongly recommended.

Paper-IV: CARTOGRAPHY-II

Max.Marks:30

Time : 3Hours

Written paper of 3 hours duration at college level (except CDOE) : 20 marks

Viva and Practica IRecord (10+10) : 10 marks

Objective:

- To introduce the concept of maps and relevance of maps in Geography
- To explain the elements of Map (Scale and Orientation) and steps in Map making
- To introduce relief representation and weather symbolization on maps

COURSE CONTENT**UNIT-I**

Introduction to concept of Global Positioning System(GPS).

Elements of Map Design

(6 lectures,12 lab sessions)

UNIT-II*Representation of Relief:* Hill-shading, Hachures, and Layer Tints, Spot heights, Benchmarks, Contours.

(6 lectures,12 Lab. sessions)

UNIT-III*WeatherMaps:*General introduction to the study of weather maps, the scheme of weather symbols including Beaufort's scale employed in Indian Daily Weather Maps.

(6 lectures,12 lab.sessions)

UNIT-IV*Interpretation of Weather maps in India:* Summer, Monsoon and Winter season, Weather Forecasting through the study of weather mapsand recent advances in weather forecasting.

(6 lectures,12 lab.sessions)

Note:

1. The written and practical examination including viva-voce shall be conducted at the respective college it self except CDOE. However, the format of the question paper shall be uniform. A separate paper of 20 marks shall be prepared on the spot by the examiners from the prescribed syllabus.
2. Practical examination at the respective colleges shall be conducted by one internal and one external examiner. The external examiner shall be appointed by the Principal of the respective colleges in consultation with the senior most teacher of Geography in the college.
3. **For students of CDOE, a written the ory paper for 20 marks shall be conducted by the University along with the University examination. A separate paper of 20 marks shall be prepared for CDOE students from the prescribed syllabus.**
4. A compulsory question containing 6 short answer type questions shall be set covering the whole syllabus.The students shall attempt any 4 parts. The answer of each part should be about 25 words. Each part will carry 1mark (Total 4 Marks).
5. The whole syllabus has been divided into 4 Units. Eight questions will be set out of the whole syllabus, i.e. 2 from each Unit. Each question will carry 4 marks The students will be required to attempt one question from each Unit.These will be inaddition to the compulsory question I.
6. Evaluation of Practical Record will be done at the time of viva-voce examination. A minimum of 15 sheets are to be prepared by the students.There will be no laboratory exercise at that time.
7. There will be no viva-voce examination for the candidates appearing through CDOE. They will be required to submit their Practical NoteBook (Practical files) with the Centre for Distance and Online Education (Department of Geography) at least 10 days before the commencement of their examination. Their Note Books (Practicalfiles) will be evaluated by two examiners (including at least one from the CDOE).
8. For the students of Centre for Distance and Online Education, there will be an internal assessmentof10 marks in lieu of the viva-voce examination.
9. A fresh practical note book shall be prepared by failed/ improvement candidates.
10. For practical classes,then umber of students in one group shall not exceed fifteen.
11. There will be 3 hours of teaching per week for this paper.
12. For CDOE, reappear/ improvement candidates(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to thepaper(s) concerned.

The paper-setter must put note (12) in the question paper**Essential Readings :**

1. Mishra, R.P. & Ramesh, A. : *Fundamentals of Cartography (2nd Revised Edition)*, Concept Publishing, Co., New Delhi, 2014
2. Singh, Gopal : *Mapwork and Practical Geography (4th Edition)*, Vikas Publishing House Pvt. Ltd., New Delhi, 2000.
3. Singh, R.L. & Singh : *Mapwork and Practical Geography*, Central Book Depot, Raghunandan Allahabad,2007.
4. Dink, Phyllis : *Mapwork*, Atma Ram & Sons, Latest Edition, 1962.
5. Anderle, R : *The Global Positioning System*, Royal Society of London, 1998.
6. Kulkarni, M.N : *The GPS and Its Applications, Training*, Volume GPS Training Course, Civil Engg.Dept., I.I.T. Bombay, 9-19 May, 2000.
7. Hoffman-Wellenh of, B. et. al : *GPS Theory and Practice*, 5th Edition, Springer Wien, New York, 2001

Further Readings:

1. Monkhouse, F.J.&Wilkinson,H.R.: *Mapsand Diagrams*,Methuen & Co., London,Third Edition, 1976.
2. Robinson, A.H., Morrison, J.L. & Others :*Elements of Cartography* (Sixth Reprint Edition), John Wiley & Sons, NewYork, 2016.
3. Colombo,O.L.&Watkins, M.M.: *Satellite Positioning in US National Report to IUGG*, on Geodesy, 1991.
4. King, R.W.& Others: *Surveying with GPS*, Dummlers Verlag,1987.
5. Kulkarni, M.N.: *GPS from an Indian Perspective* ,GIM International Journal, GITC Publication,TheNetherlands,Vol.14,Oct.,pp.43-45.(2000a).
6. Mueller,I.I.:*Global and Regional Geodynamics*,IAG Symposia101,Springer Verlag,1989.
7. Wells, D.E.:*Guideto GPS Positioning*, Canadian GPS Association, New Brunswick,Canada,1988.

Pedagogy :

- The use of topographical sheets of Survey of India and weather maps.
 - A well equipped cartographic laboratory with necessary instruments to prepare exercises.
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GANDHIAN STUDIES SEMESTER –I

MAHATMA GANDHI: FAMILY AND EARLY LIFE (INDIA, ENGLAND AND SOUTH AFRICA)

| | | |
|---------------------|---|-----------|
| Max. Marks | : | 100 marks |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 hours |

Course Objectives :

The paper is designed to acquaint the students with the early life of Mahatma Gandhi in India and in London.

Pedagogy of the Course Work :

90% Lectures (including expert lectures)

10% Unit Tests, Snap Tests, assignments, attendance and class room participation.

- Note :**
1. The syllabus has been divided into four (4) units.
 2. There shall be 9 questions in all.
 3. The first question is compulsory and shall be short answer type containing 15 short answer type questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. It shall carry 18 marks and shall be **compulsory** question.
 4. Rest of the paper shall contain four (4) units and each units shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each unit – 4 in all. All questions shall carry 18 marks.
 5. For the private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (5) in the question paper.

UNIT-I

Family and Schooling

- a) Family Background – Parents, Rambha & others
- b) Neighbourhood and Early Impact
- c) Schooling
- d) Influence of Indian Scriptures

UNIT-II

As a Law Student in London

- a) Dilemma Before Going to London
- b) As a Law Student
- c) Vegetarianism
- d) Self-transformation and Home Coming

UNIT-III**Gandhi in South Africa**

- a) Journey to South Africa
- b) Encounter with Racial Discrimination/Apartheid
- c) Conditions of Indians in South Africa
- d) Birth of Satyagraha

UNIT-IV**Satyagraha in Practice**

- a) Disfranchisement of Indians
- b) Establishment of Natal Indian Congress
- c) Asiatic Law Amendment Ordinance
- d) Home Coming

ESSENTIAL READINGS:

1. Bhattacharyya, Buddhadeva : *Evolution of the Political Philosophy of Gandhi* (Calcutta: Calcutta Book House), 1969.
2. Chandran, Devansen D.S. : *Making of the Mahatma* (New Delhi: Orient Longman), 1969.
3. Gandhi, M.K. : *An Autobiography or The Story of My Experiments with Truth* (Ahmedabad: Navajivan Publishing House), 1986, 1995, 2004 editions.
4. Gandhi, M.K. : *Satyagraha in South Africa* (Ahmedabad: Navajivan Publishing House), 1987.
5. Gandhi, M.K. : *Hind Swaraj* (Ahmedabad: Navajivan Publishing House), 1992.
6. Malhotra, S.L. : *Lawyer to Mahatma: Life, Work and Transformation of M.K. Gandhi* (New Delhi : Deep & Deep Publication), 2001.
7. Mishra, Anil Dutta : *Reading Gandhi* (New Delhi: Dorling Kindersley Pearson), 2012.
8. Nanda, B.R. : *Mahatma Gandhi - A Biography* (London: George Allen and Unwin), 1976.

FURTHER READINGS:

1. Allen, Douglas (ed.) : *The Philosophy of Mahatma Gandhi for the Twenty First Century* (New Delhi: Oxford University Press), 2009.
2. Bandyopadhaya, J. : *Social and Political Thought of Gandhi* (Calcutta: Allied Publishers), 1969.
3. Fischer, Louis : *Life of Mahatma Gandhi* (Bombay: Bhartiya Vidya Bhawan), 1996.
4. Nanda, B.R. : *Making of a Nation: India's Road to Independence* (New Delhi: Harper Collins), 1998.
5. Payne, Robert : *The Life and Death of Mahatma Gandhi* (New Delhi: Rupa & Co.), 1997 edition.

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GANDHIAN STUDIES

SEMESTER –II

GANDHI IN FREEDOM STRUGGLE - SOUTH AFRICA AND INDIA

| | | |
|---------------------|---|-----------|
| Max. Marks | : | 100 marks |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 hours |

Course Objectives:

The paper is designed to acquaint the students with life in South Africa and struggle against racial discrimination.

Pedagogy of the Course Work :

90% Lectures (including expert lectures).

10% Unit Tests, Snap Tests, assignments, attendance and class room participation.

- Note :**
1. The syllabus has been divided into four (4) units.
 2. There shall be 9 questions in all.
 3. The first question is compulsory and shall be short answer type containing 15 short answer type questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. It shall carry 18 marks and shall be **compulsory** question.
 4. Rest of the paper shall contain four (4) units and each units shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each unit – 4 in all. All questions shall carry 18 marks.
 5. For the private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (5) in the question paper.

UNIT-I

Struggle for Human Rights in South Africa

- a) Green Pamphlet
- b) Indian Opinion
- c) Visit to London
- d) Interaction and Confrontation : Race & Caste

UNIT-II

Establishing Ashrams

- a) Experience of Community Life in South Africa
- b) Phoenix Settlement
- c) Tolstoy Farm
- d) Return to India

UNIT-III

Western Influences-I

- a) Influence of John Ruskin
- b) Influence of Henry David Thoreau
- c) Influence of Leo Tolstoy
- d) Influence of Emerson

UNIT-IV**Gandhi's entry into Indian Politics**

- a) Early Political Activities
- b) Champaran Satyagrah
- c) Kheda Satyagrah
- d) Ahmadabad Mill Strike

Essential Readings:

1. Brown, Judith, M. : *Gandhi's Rise to Power: Indian Politics 1915-1922* (London: Cambridge University Press), 1972.
2. Chandran, Devansan D.S. : *Making of the Mahatma* (New Delhi: Orient Longman), 1969.
3. Fischer, Louis : *Life of Mahatma Gandhi* (New York: Harper and Row), 1983.
4. Gandhi, M.K. : *An Autobiography or The Story of My Experiments with Truth* (Ahmedabad: Navajivan Publishing House), 2001.
5. Gandhi, M.K. : *Satyagraha in South Africa* (Ahmedabad: Navajivan Publishing House), 1992.
6. Gandhi, M.K. : *Hind Swaraj* (Ahmedabad: Navajivan Publishing House), 1999.
7. Kripalani, J.B. : *Mahatma Gandhi, His Life and Thought* (New Delhi: Publications Division, Ministry of Information and Broadcasting), 1971.
8. Malhotra, S.L. : *Lawyer to Mahatma: Life, Work and Transformation of M.K. Gandhi* (New Delhi: Deep & Deep Publication), 2001.
9. Nanda, B.R. : *Making of a Nation : India's Road to Independence*(New Delhi: Harper Collins), 1998.
- 10 Parekh, Bhikhu : *Gandhi's Political Philosophy: A Critical Examination* (Delhi: Ajanta), 1989.

Further Readings :

1. Allen, Douglas (ed.) : *The Philosophy of Mahatma Gandhi for the Twenty First Century* (New Delhi: Oxford University Press), 2009.
2. Bandyopadhaya, J. : *Social and Political Thought of Gandhi* (Calcutta: Allied Publishers), 1969.
3. Bondurant, John V. : *Conquest of Violence: The Gandhian Philosophy of Conflict* (Bombay : Oxford University Press), 1959.
4. Chandran, Devansan D.S. : *Making of the Mahatma* (New Delhi: Orient Longman), 1969.
5. Fischer, Louis : *Life of Mahatma Gandhi* (Bombay: Bhartiya Vidya Bhawan), 1996.
6. Ganguly, Debjani & Docker, John (eds.). : *Rethinking Gandhi and Non-violence Relationlity Global Perspective* (New Delhi: Orient Blackswan Pvt.), 2009.
7. Nanda, B.R. : *Mahatma Gandhi- A Biography* (London :George Allen and Unwin), 1976.
8. Payne, Robert : *The Life and Death of Mahatma Gandhi* (New Delhi: Rupa & Co.), 1997, edition.

JOURNALISM & MASS COMMUNICATION

SEMESTER –I

INTRODUCTION TO MASS COMMUNICATION - I

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 70 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |
| Practical | : | 20 marks |

A. Objectives :

The course will introduce to the students the general concepts and historical viewpoints in communication and media. The students would also get an understanding of the basic models communication and gain an understanding of the current scenario of media industry in India.

B. Pedagogy of the Course Work:

- 80 % Lectures (including expert lectures).
- 20 % assignments, discussion and seminars.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

There shall be **9** questions in all. The first question shall be short answer type containing 10 short questions spread over the whole syllabus and each to be answered in about 50 to 75 words. The candidate is required to attempt any 7 short answer type questions i.e. of 2 marks each. It shall carry 14 marks and is a **compulsory** question. Rest of the paper shall contain **4** Units. Each Unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all. Each question will carry 14 marks.

| | | |
|-----------------|---|---|
| Unit-I | : | Definition, nature and concept of communication; types of communication: intra; inter; group and mass. |
| Unit-II | : | Basic models of mass communication : S-R model; Schramm's Model; Model based on Lasswell formula; Mathematical Model. |
| Unit-III | : | Early Press History in India (1782-1947); Role of nationalist newspapers in freedom struggle; Laws to curb press freedom before Indian independence; Role of press in Post Independence era (1947-1975); Role of Press during Emergency (1975-1977); Press in modern India (1978-present) |
| Unit-IV | : | Brief overview of media industry in India with emphasis on growth of <ul style="list-style-type: none"> • Press • Radio • TV • New Media |

PRACTICALS

| | | |
|---|---|------------------------------|
| | | Max. Marks : 20 Marks |
| 1. Project on any one aspect of communication | : | 10 Marks |
| 2. Case study of any one early newspaper | : | 10 Marks |

Books Recommended:**Essential Reading :**

1. Wilbur Schramm, (1960), *Mass Communication*, 2nd ed. Urbana, University of Illinois Pr.
2. Wilbur Schramm, (1953), *Process & Effects of Mass Communication*, Urbana, University of Illinois Press.
3. Lee Richardson, (1969), *Dimensions of Communication*, N.Y. Appleton- Century-Croft.
4. Kenneth K. Anderson, 1972, *Introduction of Communication: Theory and Practice*. Menlo Park, Cummings Pub. Co.
5. Deniel Ketz et al, (1962), *Public Opinion and Propaganda*, N.Y. Holt.
6. Anderson, Kenneth, (1972), *Introduction to Communication: Theory and Practice*. Cummings Publishing Co., California.
7. Everett M. Rogers, (1997), *A history of communication study*, The Free press.
8. S.K. Goel, (1999), *Communication Tomorrow*, Common, Wealth publishers.
9. Steven G. Jones, (1998), *Cybersociety*, Sage Publication.
10. Michael Norton and Purba Dutt, (2003), *Getting started in Communication*, Sage Publications.
11. M.H. Syed, (2006), *History of Mass Media*, Anmol Publication Pvt. Ltd..
12. Keval J. Kumar, Jaico, (1995), *Mass Communications in India*, Publishing House.
13. Kevin Williams, (2003), *Understanding Media Theory*. Arnold Publication.
14. Roger Silverston, (1999), *Why study the Media?* Sage Publications.
15. Marie Winn, (1985), *The plug-in Drug*, Penguin Books.
16. Stanley J. Baran and Dennis K. Davis, (2002), *Mass Communication theory*. Thomson Wadsworth Publication.

Additional Reading:

1. Ball-Rokeach, Sandra & DeFleur, (1975), *Theories of Mass Communication*, Melvin, Longman, New York.
2. Berlo David, Rinehart & Winston, (1960), *The Process of Communication*. Holt, NY
3. Blumler, Jay G & Katz, Elihu (ed.), SAGE, Beverly Hills, 1974, *The uses of Mass Communication*.
4. De Sola Pool, (1972), *Handbook on Communication*, Ithiel (ed), Rand McNally College Publishing Co., Chicago.

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JOURNALISM & MASS COMMUNICATION

SEMESTER- II

PAPER : INTRODUCTION TO MASS COMMUNICATION-II

| | |
|---------------------|--------------|
| Max. Marks | : 100 |
| Theory | : 70 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |
| Practical | : 20 marks |

A. Objectives:

This course will introduce students to the basic terminology of various forms of mass media as well as folk and new media. They will also be apprised with application areas such as Advertising & Public Relations.

B. Pedagogy of the Course Work:

- 80 % Lectures (including expert lectures).
- 20 % assignments, discussion and seminars.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

There shall be **9** questions in all. The first question shall be short answer type containing 10 short questions spread over the whole syllabus and each to be answered in about 50 to 75 words. The candidate is required to attempt any 7 short answer type questions i.e. of 2 marks each. It shall carry 14 marks and is a **compulsory** question. Rest of the paper shall contain **4** Units. Each Unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all. Each question will carry 14 marks.

Unit-I : Basic terms, concepts, definitions and nature of Print, TV and Radio Journalism.

Unit-II : Folk Media: Types, reach and relevance.

Unit-III : New Media: Cyberspace as a source of information, communication and entertainment.

Unit-IV : Definition, role of Advertising and Public Relations.

PRACTICALS

Max. Marks : 20 Marks

1. Case study of any one newspaper, radio station or TV channel : 10 Marks
2. Project on either folk or new media : 10 Marks

Books Recommended:**Essential Reading :**

1. Luthra, H.P., 1984, *Indian Broadcasting*. Publications Division, Min. of I & B.
2. Rao, B.S.S., (1992), *Television for Rural Development*. Concept Publishers, New Delhi.
3. Shivastava, K.M., (1989), *Radio and TV Journalism*, Sterling Publications Pvt. Ltd., New Delhi.
4. Maloney, Martin J. & Rubenstein, Paul Max, (1980), *Writing for the Media*. Prentice Hall, New Jersey.
5. Deniel Ketz et al, (1962), *Public Opinion and Propaganda*, N.Y. Holt.
6. Anderson, Kenneth, (1972), *Introduction to Communication: Theory and Practice*. Cummings Publishing Co., California.
7. Everett M. Rogers, (1997), *A history of communication study*, The Free press.
8. S.K. Goel, (1999), *Communication Tomorrow*, Common, Wealth Publishers.
9. Steven G. Jones, (1998), *Cybersociety*, Sage Publication.
10. Michael Norton and Purba Dutt, (2003), *Getting started in Communication*, Sage Publications.
11. M.H. Syed, (2006), *History of Mass Media*, Anmol Publication Pvt. Ltd.
12. Keval J. Kumar, Jaico, (1995), *Mass Communications in India*, Publishing House.
13. Kevin Williams, (2003), *Understanding Media Theory*. Arnold Publication.
14. Roger Silverston, (1999), *Why study the Media?* Sage Publications.
15. Marie Winn, (1985), *The plug-in Drug*, Penguin Books.
16. Stanley J. Baran and Dennis K. Davis, (2002), *Mass Communication theory*. Thomson Wadsworth Publication.

Additional Reading :

1. Ball-Rokeach, Sandra & DeFleur, (1975), *Theories of Mass Communication*, Melvin, Longman, New York.
2. Berlo David, Rinehart & Winston, (1960), *The Process of Communication*. Holt, N.Y.
3. Blumler, Jay G. & Katz, Elihu (ed.), SAGE, Beverly Hills, 1974, *The uses of Mass Communication*.
4. De Sola Pool, (1972), *Handbook on Communication*, Ithiel (ed), Rand McNally College Publishing Co., Chicago.
5. Ken Fielding , *Introduction to Television Production* (Arizona State University) Longman New York & London.
6. Lynee S. Gross WCB, *Tele Communication- An Introduction to Electronic Media*. Wm. C. Brown Publisher.
7. Zetl, Herbert, 2003, *The Handbook of Strategic Public Relations and Integrated Communications*. Tata McGraw Hill, New York.
8. Shrivastava, K.M, (2005), *Broadcast Journalism in the 21st century* New Dawn Press Group, New Delhi.

POLICE ADMINISTRATION SEMESTER – I

Outlines of Tests, Syllabi and Courses of Reading

Paper : POLICE ADMINISTRATION IN INDIA

(A) Course Objectives:

The principal objective of this paper is to acquaint the students with the Indian Police Administration along with its history and growth. Considerable attention has been paid to the concept and significance of reforms in Police Administration with special reference to reform initiatives after independence. The endeavor of the course would be to familiarize the students with the Police Administration at the Union Level with special focus on the Union Ministry of Home Affairs and Central Armed Police Forces. The powers functions and role of Police at Union, State, District and Police Station level will also be discussed.

(B) Pedagogy of the Course Work:

90 per cent of the Course Content would be delivered through Lecture Method and rest 10 per cent would comprise of:

- i. Internal Test-5%;
- ii. Academic activities (Seminar, Project, Assignment)-3%;
- iii. Attendance-2%

(C) Instructions for Paper Setters and Candidates:

- The maximum marks for the paper will be 100. The question paper will be of 90 marks and internal assessment of 10 marks.
- Time allowed will be 3 hours.
- There shall be 9 questions in all.
- The first question shall be compulsory and be short answer type containing 12 short questions spread over the whole syllabus and to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 2 marks (9x2 = 18 marks).
- Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall have two questions and the candidates shall attempt one question from each unit i.e. four questions in all. Each question will carry 18 marks (4x18 = 72 marks).

(D) Course Content:

Unit-I

Concept, Role and Significance of Police; Origin and development of Police in Ancient, Medieval and British Period. Police Reforms in India after Independence.

Unit-II

Organization and Working of Union Ministry of Home Affairs; Organization and Working of Central Police Organizations with special reference to Central Bureau of Investigation (CBI); Intelligence Bureau (IB); Bureau of Police Research and Development (BPR&D); and National Crime Records Bureau (NCRB).

Unit-III

Origin, Structure and Working of Central Armed Police Forces (CAPFs) with Special Reference to BSF, CRPF, ITBP, CISF and SSB.

Unit-IV

Organization and Working of Police Administration at the State Level, District Level and Police Station Level. Commissionerate System of Policing.

Essential Readings:

1. Sharma, P. D. : Indian Police – A Developmental Approach, Research Publications, New Delhi, 1977.
2. Ghosh, S.K. and Rustamji, K.F. : Encyclopaedia of Police in India, Volume I Ashish Publishing House, New Delhi, 1993
3. Sen, Shankar : Indian Police Today, Ashish Publishing House, New Delhi, 1994.
4. Srivastava, Aparna : Role of Police in a Changing Society, A.P.H. Publishing Corporation, New Delhi, 1999.
5. K.P Singh : Police Gyan Vigyan, Bright Law House, New Delhi, 2004.
6. Dempsey, John S. & Linda S. Forst : An Introduction to Policing, Thomson-Wadsworth, CA, 2005.
7. Chaturvedi, J.C. : Police Administration and Investigation of Crime, Isha Books, Delhi, 2006.
8. Gupta, Anandswarup : The Police in British India: 1861-1947, Bureau of Police Research & Development, New Delhi, 2007.
9. Michael E. Buerger, Carl J. Jensen, III, Richard W. Myers, Bernard H. Levin, Joseph Andrew Schafer : The Future of Policing: A Practical Guide for Police Managers and Leaders, CRC Press Taylor and Francis Group, London 2012
10. Goel, S.L. : Law and Order Administration and the Police, 2014
11. Roja, B. : Police Administration Under The British Rule: In the Northern Range of the Madras Presidency 1924-47, Gyan Publishing House; New Delhi, 2015
12. Ranjan, Sanjeev : Police Administration: Concept and Practices (Hindi) Regal Publications, New Delhi, 2020
13. Singh, Kuldeep & Begra, Shaveta : Police Administration: Emerging Issues & Concerns (Edited), Selective and Scientific Books (S & S), New Delhi, 2020

Further Readings:

1. Bailey, David, H. : The Police and Political Development in India, Princeton University Press, New Jersey, 1969.
2. Saxena, Anil K. : Professionalism in Indian Police, A.P.H. Publishing Corporation, New Delhi, 1997.
3. Vadackumchery, James : National Police Commission: Issues for Rethinking, APH Publishing Corporation, New Delhi, 1998.
4. Chaturvedi, J.C. : Police Administration and Investigation of Crime, Isha Books, Delhi, 2006.

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POLICE ADMINISTRATION

SEMESTER – II

Paper : CONSTITUTION OF INDIA

(A) Course Objectives:

The objective of this course is to give an overview to the students the basic information about the Constitution of India. The students would be taught concepts such as Preamble, Citizenship, Fundamental Rights, Directive Principles of State Policy and Fundamental Duties. They are made to understand the political executive at the union and state level; the union and state legislature and judiciary at the Union and in the state. In addition, efforts would be made to discuss the mechanism available for ensuring police accountability.

(B) Pedagogy of the Course Work:

90 per cent of the Course Content would be delivered through Lecture Method and rest 10 per cent would comprise of :

- i. Internal Test-5%;
- ii. Academic activities (Seminar, Project, Assignment)-3%;
- iii. Attendance-2%

(C) Instructions for Paper Setters and Candidates:

- The maximum marks for the paper will be 100. The question paper will be of 90 marks and internal assessment of 10 marks.
- Time allowed will be 3 hours.
- There shall be 9 questions in all.
- The first question shall be compulsory and be short answer type containing 12 short questions spread over the whole syllabus and to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 2 marks (9x2 = 18 marks).
- Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall have two questions and the candidates shall attempt one question from each unit i.e. four questions in all. Each question will carry 18marks (4x18 = 72 marks).

(D) Course Content:

Unit – I

Preamble, Citizenship, Fundamental Rights, Restrictions on Police Rights, Directive Principles of State Policy & Fundamental Duties.

Unit – II

Executive at the Union Level: President, Prime Minister and Council of Ministers; Union Legislature: Lok Sabha and Rajya Sabha; Judiciary at the Union Level: Supreme Court.

Unit-III

Executive at the State Level: Governor, Chief Minister and Council of Ministers. State Legislature: Vidhan Sabha and Vidhan Parishad. Judiciary in the State : High Court and Subordinate Courts.

Unit – IV

Public Accountability of Police through Constitutional and statutory bodies: National Commission for Schedule Caste, National Commission for Schedule Tribes, National Commission for Women, National Human Rights Commission. National Commission on Protection of Child Rights.

Essential Readings:

1. Granville Austin : The Indian Constitution: Cornerstone of a Nation, Oxford University Press, London, 1966.
2. Norman D. Palmer : The Indian Political System, Houghton Mifflin, New York, 1975.
3. Iqbal Narain (Ed.) : State Politics in India, Meenakshi Publications, Meerut, 1976.
4. Avasthi and Avasthi : Indian Administration, Lakshmi Narain Agarwal, Agra, 1995.
5. Ramesh K. Arora and Rajni Goyal : Indian Public Administration: Institutions and Issues, VishwaPrakashan, New Delhi, 1997.
6. Sriram Maheshwari : State Government in India, Macmillan, New Delhi, 2000.
7. U.R. Ghai : Indian Political System
8. Basu, Dugra Das : Introduction to The Constitution of India (24th Edition, 2019).

Further Readings:

1. Pye, Lucian W. and Sidney Verba (Eds.) : Political Culture and Political Development, Princeton University Press, New Jersey, USA, 1965.
2. Bambri, C. P. : The Indian State – 50 Years, Shipra Publications, Delhi, 1977.
3. Singh, Hoshiar (Ed.) : Indian Administration, Aalekh Publishers, Jaipur, 1990.

WOMEN'S STUDIES

SEMESTER-I

Paper- : FOUNDATIONAL CONCEPTS IN WOMEN'S STUDIES

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objectives : The objective of this course is to conscientise the students about some of the key concepts in women's studies, their meaning from a feminist and gender perspective with special reference to India.

Course Contents :

Unit I: Gender

- Sex and Gender : Definition and Difference
- Gender Stereotypes: Genesis and Persistence through Family, School and Peer Group
- Social Construction of Gender: From infancy to Adulthood to Old age

Unit II: Patriarchy

- Definition and Origin of Patriarchy
- Manifestations of Patriarchy:
 - (a) Preference for Male Child
 - (b) Discrimination against girl-child and women in the family
 - (c) Violence against Women
 - (d) Discrimination against Women at the Workplace

Unit III: Empowerment

- Definition
- Types of Empowerment:
 - (a) Social – with reference to women's role in marriage and family
 - (b) Political – 73rd and 74th Constitutional Amendment Acts
 - (c) Economic – Employment and Property Rights

Unit IV: Women's Studies

- (a) Definition,
- (b) Rationale for Women's Studies,
- (c) Evolution of Women's Studies,
- (d) Women's Studies as a discipline.

NOTE:

- In each of the papers, the candidate will be assessed for 90 marks on the basis of a written examination and internal assessment will be for 10 marks.
- There shall be 9 questions in all. The first question shall be compulsory containing 12 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidate is required to attempt any 09 short answer type questions carrying 2 marks each (18 marks). Rest of the paper shall contain 4 units. Each Unit shall have two questions and the candidate shall attempt one question from each unit- 4 in all. Each question will carry 18 marks.

Essential Readings:

1. Anderson, Margaret : *Thinking About Women*, Macmillan, New York, 1993.
2. Bhasin, Kamla : *What is Patriarchy?*, Kali for Women, New Delhi, 1994.
3. Bhasin, Kamla : *Understanding Gender*, Kali for Women, New Delhi, 2000.
4. Connel, R.W. : *Gender, Polity*, Cambridge, 2002.
5. Jain, Devaki and Rajput, Pam (eds.) : *Narratives from the Women's Studies Family*, Sage, New Delhi, 2003.
6. Poonacha, Veena : *Understanding Women's Studies*, RCWS, SNDT University, Mumbai, 1999.
7. Singh, Umesh Pratap, Garg, Rajesh Kumar and Nigam, Vivek Kumar : *Women Empowerment : Dimension and Direction*, Adhyayan Publishers and Distributors, New Delhi, 2012.
8. Woodward, Kath : *The Short Guide of Gender*, Rawat Publications, Jaipur, 2012.
9. Viz. M., Bhatia, M. and S.(eds) : *Women Studies in India: A Journey of 25 Years*, Rawat Publications, Jaipur, 2014

Further Readings :

1. Aravamudan, Gita : *Disappearing Daughters : The Tragedy of Female Foeticide*, Penguin, New Delhi, 2007.
2. Lerner, Gerda : *The Creation of Patriarchy*, Oxford University Press, New Delhi, 1986.
3. Lorber, Judith and Farell, Susan A. (ed.) : *The Social Construction of Gender*, Sage, New Delhi, 1991.
4. Makwana Ramesh H. : *Women Empowerment through Panchayati Raj*, ABD Publishers, Jaipur, New Delhi, 2012
5. Mies, Maria : *Indian Women and Patriarchy*, Concept Publishing Company, New Delhi, 1980.
6. Rajput, Pam & Kaur, Manvinder : "Women's Studies in Higher Education in India: Some Reflections", *Samyukta*, Vol. III, No.1, January, 2003.

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WOMEN'S STUDIES**SEMESTER -II****Paper : STATUS OF WOMEN IN INDIA-I**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objectives: The status of women in India has changed over time in relation to historical and cultural realities, levels of consciousness, perceptions and actions of individual women, women's groups and finally State initiatives. This course first aims to acquaint the student with women in the Indian tradition from ancient times to the present, a tradition which has arisen out of the heterogeneity of experience. Further it aims to sensitize the student with the status of women in contemporary India, with a special focus upon the factual situation apart from the major issues confronting Indian women.

Course Contents**Unit I : Status of women in India in a historical perspective:**

- (a) Ancient India
- (b) Medieval India
- (c) Modern India

Unit II: Women and Family

- (a) Origin of the family
- (b) Types of family
- (c) Gender Division of labour in family
- (d) Female headed households

Unit III: Women, Religion and Caste

- (a) Religion: Women's Status in major Indian religions - Hinduism, Islam, Sikhism, Christianity
- (b) Caste: Introduction to caste system in India; Caste and Gender

Unit IV: Violence against Women

- (a) Violence against Women: Definition as given by the United Nations
- (b) Prevalent forms of violence against Women :
 - Domestic violence
 - Rape and Molestation
 - Sexual Harassment
 - Dowry Related Violence

NOTE:

- In each of the papers the candidate will be assessed for 90 marks on the basis of a written examination and internal assessment will be for 10 marks.
- There shall be 9 questions in all. The first question shall be compulsory containing 12 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidate is required to attempt any 09 short answer type questions carrying 2 marks each (18 marks). Rest of the paper shall contain 4 units. Each Unit shall have two questions and the candidate shall attempt one question from each unit- 4 in all. Each question will carry 18 marks.

Essential Readings :

1. Altekar, A.S. : *The Position of Women in Hindu Civilization*, Motilal, Banarsidass, Delhi, 1959.
2. Bader, Clarisse : *Women in Ancient India: Moral and Literary Studies*, Anmol Pub., Delhi, 1987.
3. Chatterjee, Meera : *A Report on Indian Women from Birth to Twenty*, NIPCCD, New Delhi, 1999.
4. Gopalan, Sarala and Shiva, Mira : *National Profile on Women, Health and Development*, VHAI, & WHO, 2000.
5. Gopalan, Sarala : *Towards Equality – The Unfinished Agenda : Status of Women in India-2001*, National Commission for Women, New Delhi, 2002.
6. Menon-Sen, Kalayani and Shiva Kumar, A.K. : *Women in India! How Free? How Equal?*, Report Commissioned by the Office of the United Nations Resident Coordinator in India, New Delhi, 2001.
7. *National Human Development Report, 2001*, Planning Commission, Govt. of India, March, 2002.
8. Pruthi, Raj Kumar, Devi, Rameshwari and Pruthi, Romila, (eds.) : *Status and Position of Women: In Ancient, Medieval and Modern India*, Mangal Deep, Jaipur, 2001.
9. Sagade, J. : *Child marriage in India: Socio-Legal and Human Rights Dimensions*, Oxford University Press, New Delhi, 2012.

Further Readings :

1. Ali, Azra Asghar : *The Emergence of Feminism Among Indian Muslim Women, 1920-1947*, Oxford, Karachi, 2000.
 2. Anand, Meena : *Dalit Women : Fear and Discrimination*, Isha Books, Delhi, 2005.
 3. Bhattacharya, Rinki (eds.) : *Behind Closed Doors: Domestic Violence in India*, Sage, New Delhi 2004.
 4. Choudhary, Prem : *Contentious Marriages : Eloping Couples : Gender, Caste and Patriarchy in Northern India*, OUP, New Delhi, 2007.
 5. Desai, Neera and Krishnaraj, Maithreyi (eds.) : *Women and Society in India*, Ajanta Publication, New Delhi, 1987.
 6. Goodman, Jacqueline : *Global Perspectives on Gender and Work : Readings and Interpretations Reprint*, Rowman and Little Field Publishers, New York, Toronto Plymouth, UK, 2012.
 7. Jacobson, Doranne and Wadley, Susan S. : *Women in India: Two Perspectives*, Manohar, New Delhi, 1986.
 8. Kumar, Hajira (ed.) : *Status of Muslim Women in India*, Aakar Books, Delhi, 2002.
 9. Mohanti, Bedabati : *Violence Against Women : An Analysis of Contemporary Realities*, Kanishka Publications, New Delhi, 2005.
 10. Mohini Giri, V. : *Deprived Devis : Women's Unequal Status in Society*, Gyan, New Delhi, 2006.
 11. Nagar, N.S. : *Changing Status of Indian Women*, Vista International Pub., Delhi, 2008.
 12. Rajawat, Mamta : *Dalit Women: Issues and Perspectives*, Anmol Pub., New Delhi, 2005.
 13. Thomas, P. : *Indian Women Through the Ages*, Asia Publishing House, Bombay, 1964.
 14. Yadav, Ravi Prakash and Barsa Kumar Chandradeep : *Women Workers in India*, New Century Publications, New Delhi, India, 2012.
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HUMAN RIGHTS AND DUTIES

SEMESTER-I

Paper : HUMAN RIGHTS AND DUTIES : CONCEPTUAL UNDERSTANDING

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objective :

The course is designed to provide adequate theoretical understanding about humans rights and duties. It purports to develop a broad understanding of human rights and duties, awareness about the theoretical origins of human rights and their correlation with governance issues.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

- Note :
- (i) For written paper, the students will be required to attempt **five** questions in all. **Question No. I** will be **compulsory** comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine short answer type questions out of twelve i.e $9 \times 2 = 18$ marks.
 - (ii) In addition to it, Questions Nos. II to IX will consist of long answer (Essay Type) questions i.e., 2 questions from each unit with Internal choice carrying 18 marks each i.e., $4 \times 18 = 72$

UNIT-I

THE CONCEPT OF HUMAN RIGHTS:

- Meaning and nature of Human Rights
- Classification of Rights
- The Concept of Human Rights

UNIT-II

CONCEPT OF HUMAN DUTIES:

- Meaning and nature of Human Duties; Moral, ethical, social, economic, political and cultural universal
- Classification of Human Duties: Individual, family, Community, Nation-State, Human kind and Mother Earth.
- Relationship between Rights and Duties.

UNIT-III

INTRODUCTION TO THEORIES OF HUMAN RIGHTS:

- Natural Rights Theory
- Liberal Theory of Rights,
- Legal/ positivist Theory of Rights
- Marxist Theory of Rights.
- Feminist Theory of Rights

UNIT-IV**DEMOCRATIC GOVERNANCE:**

- Democracy and People's participation.
- Rule of Law: Non-arbitrariness.
- Role of Civil Society

Essential Readings:

1. Brundtland Report : *Our Common future*, (1986) Oxford.
2. David Robertson : *A Dictionary of Human Rights*, (2004) Europa Publications, London.
3. Darren, J.O. Byrne : *Human Rights: An Introduction*, Pearson, (2005) Education Pvt. Ltd., Singapore.
4. Ian Brownlie, et al. (eds.): *Basic Documents on Human Rights*, (2006) Oxford
5. Jayapalan, N. : *Human Rights*, Atlantic Publishers, (2000) New Delhi.
6. Kalpana Kammabiran : *Crafting Human Rights Cultures* (2006), NALSAR University of Law, Hyderabad.
7. Gandhi, P.R. (ed.) : *Blackstone's International Human Rights Documents*, (2001) University, Delhi.

Further Readings

1. Baxi Upendra (ed.) : *The Right to be Human*, (1987) *Lancet International*, New Delhi.
2. Sanjaoba, N. : *Human Rights in the New Millennium*, (2000) Manas Publications, New Delhi
3. Tripathi, Mani B.N. : *Jurisprudence*, (2008) *Faridabad: Allahbad Law Agency*
4. Lakhani, M.V. : *Studies in Juris Prudence*, (2013), Tech Publications New Delhi: Cyber

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HUMAN RIGHTS AND DUTIES

SEMESTER-II

Paper : HUMAN RIGHTS : INTERNATIONAL DIMENSIONS

| | | |
|---------------------|---|----------|
| Maximum Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objective :

This paper purports to deal with promotion and protection of human rights in the international context, particularly in the UN bodies. It aims to create awareness regarding the Universal Declaration of Human Rights, 1948, significant Covenants along with the Optional Protocols.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

- Note :
- (i) For written paper, the students will be required to attempt **five** questions in all. **Question No. I** will be **compulsory** comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine short answer type questions out of twelve i.e. $9 \times 2 = 18$ marks.
 - (ii) In addition to it, Questions Nos. II to IX will consist of long answer (Essay Type) questions i.e., 2 questions from each unit with Internal choice carrying 18 marks each i.e., $4 \times 18 = 72$ marks

UNIT-I

INTERNATIONAL NORMS AND MECHANISMS:

- League of Nations
- The United Nations Charter and the development of Human Rights.

UNIT-II

INTERNATIONAL BILL OF RIGHTS:

- Universal Declaration of Human Rights (UDHR), 1948
- International Covenant on Civil and Political Rights (ICCPR), 1966; Optional Protocol
- International Covenant on Economic Social and Cultural Rights (ICESCR), 1966; Optional Protocol

UNIT-III

HUMAN RIGHTS AND UNITED NATIONS BODIES (I):

- UN General Assembly
- Economic and Social Council (ECOSOC)
- UN Human Rights Council

UNIT-IV

HUMAN RIGHTS AND UNITED NATIONS BODIES (II):

- International Labour Organization (ILO)
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- World Health Organization (WHO)

Essential Readings:

1. Philip (ed.) : *United Nations and Human Rights* (1966), Clearndon Press, Oxford.
2. Henry Steiner J. et al (eds.) : *International Human Rights in Context* (1966), Chapter 10, Clarendon Press, Oxford.
3. Saxena, J.N. et al (ed.) : *United Nations for Better World* (1986), Lancers Books, New Delhi.
4. Henkin Louis : *International Bill of Rights: The Covenant on Civil and Political Rights* (1981), Columbia University Press, New York.
5. Krasno Jean A. : *The United Nations* (2005), Viva books, New Delhi.
6. Lauterpacht, Hersch : *An International Bill of the Right of Man* (1945), Columbia University Press, New York.
7. Morsink, Johannes : *The Universal Declaration of Human Rights : Origins, Drafting and Intent* (1999), University of Pennsylvania Press, Philadelphia

Further Readings

8. UN Centre for Human Rights : *International Human Rights Standards for Law Enforcement*(1966), World Campaign for Human Rights, Geneva.
9. Kapoor, S.K. : *Human Rights*, (2005) Allahabad Central Law Agency:
10. Aggarwal, H.O : *International Law and Human Rights*, (2008) Central Allahabad Law Agency:

COMPARATIVE STUDY OF RELIGION

SEMESTER- I

PAPER-I, HINDUISM

| | | |
|---------------|---|----------|
| Maximum Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal | : | 10 Marks |
| Assessment | : | |
| Time | : | 3 Hours |

Objectives:

The course is designed for the students who want to pursue semester based graduate degree programme with Religious and Sikh Studies as an elective subject. It is open to any student drawn from multiple disciplinary backgrounds after completion of 10+2 course as one of the elective subject at the graduate level curriculum, it purports to develop a broad understanding of Indian Religions and awareness regarding the origin, features and teachings of different religions.

Pedagogy:

The Pedagogy of the course involves classroom lectures, assignments, discussions, special lectures. Field trip and feedback from the students.

INSTRUCTIONS FOR PAPER-SETTER AND CANDIDATES:

Note: (i) For written paper, the students will be required to attempt five questions in all. Question No. I will be compulsory comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine answer type questions out of twelve. Question No. I would carry 18 marks (9x2).

In addition to it, Questions No. II to IX will consist of **eight** long answer (Essay Type) questions which will be further divided into four units with each Unit having **two questions** to ensure internal choice to the candidate. The students are required to attempt any four out of these eight essay type questions selecting one question from each Unit. In all, each question in this section shall carry 18 marks and this section shall carry 72 marks (4x18).

Course Contents

Unit. I. Vaishnavism : origin, development; features and institutions

Unit. II. Shaivism: origin, development; features and institutions

Unit. III. Shaktism: origin, development; features and institutions

Unit. IV. Bhakti Movement in India: growth and development; with special reference to Ramanuj and Chaitanya

Essential Readings:

1. Bhandarkar, R.G., *Vaishnavism, Shaivism and Minor Religious Systems*, Varanasi 1965.
2. Jayaswal, Suvira, *the Origin and Development of Vaishnavism*, New Delhi, 1981.
3. Majumdar, A.K., Chaitanya, *His Life and Doctrine: A Study in Vaishnavism*, Bombay: Bhartiya Vidya Bhavan, 1969.
4. Sharma, Krishna, *Bhakti and the Bhakti Movement: A New Perspective*, New Delhi: Munshiram Manoharlal, 1987.
5. ਉਪਾਧਿਆਇ ਬਲਦੇਵ, *ਭਾਰਤੀ ਦਰਸ਼ਨ ਕੀ ਰੂਪਰੇਖਾ* (ਹਿੰਦੀ), ਪ੍ਰਕਾਸ਼ਨ ਹਾਊਸ, ਦਿੱਲੀ, 2016 ਪੇਪਰ ਬੈਕ.
6. ਸਿੰਘ ਸਰਬਜਿੰਦਰ, ਡਾ.(ਸੰਪਾ.) 'ਵਿਸ਼ਵ ਧਰਮ ਬਾਨੀ ਵਿਸ਼ੇਸ਼ ਅੰਕ' ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, ਨਾਨਕ ਪ੍ਰਕਾਸ਼ ਪਤ੍ਰਿਕਾ
7. ਸਿਨਹਾ, ਹਰੇਂਦ੍ਰ ਪ੍ਰਸਾਦ (ਡਾ.), *ਧਰਮ ਦਰਸ਼ਨ ਕੀ ਰੂਪ ਰੇਖਾ*, ਮੋਤੀਲਾਲ ਬਨਾਰਸੀ ਦਾਸ, ਦਿੱਲੀ, 1985.
8. ਦੱਤਾ ਅਤੇ ਚੈਟਰਜੀ, *ਭਾਰਤੀ ਦਰਸ਼ਨ* (ਹਿੰਦੀ), ਪਬਲੀਕੇਸ਼ਨ ਹਾਊਸ, ਦਿੱਲੀ, 1973
9. ਨਾਨਕ ਪ੍ਰਕਾਸ਼ ਪਤ੍ਰਿਕਾ: 'ਧਰਮ ਸੰਪ੍ਰਦਾਇ ਵਿਸ਼ੇਸ਼ ਅੰਕ' ਦਸੰਬਰ 2005-ਅੰਕ ਦੂਜਾ ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2005
- 11 ਨਿਰਾਕਾਰੀ, ਆਰ. ਡੀ. *ਭਾਰਤੀ ਦਰਸ਼ਨ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 1994.
- 12 ਪੰਨੂੰ, ਹਰਪਾਲ ਸਿੰਘ (ਡਾ.), *ਭਾਰਤ ਦੇ ਪੁਰਾਤਨ ਧਰਮ*, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2000.
- 13 ਮਿਸ਼ਰ, ਉਮੇਸ਼ (ਡਾ.), *ਭਾਰਤੀ ਦਰਸ਼ਨ, ਉਤਰ ਪ੍ਰਦੇਸ਼*, ਹਿੰਦੀ ਸੰਸਥਾਨ, ਲਖਨਊ, 2003.

Further readings:

- Grewal, J.S., *Religious Movements and Institutions in Medieval India*, PHISPC, New Delhi: Oxford University Press, 2006.

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COMPARATIVE STUDY OF RELIGION

SEMESTER- II

PAPER-II NEW FAITHS AND SAINTS

| | | |
|---------------------|---|----------|
| Maximum Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objectives:

The course is designed for the students who want to pursue semester based graduate degree programme with Religious Studies as an elective subject. It is open to any student drawn from multiple disciplinary backgrounds after completion of 10+2 course. As one of the elective subject at the graduate level curriculum, it purports to develop a broad understanding of Indian Religions and awareness about the origin, features and purpose of different religions.

Pedagogy:

The Pedagogy of the course involves classroom lectures, assignments, discussions, special lectures. Field trip and feedback from the students.

INSTRUCTIONS FOR PAPER-SETTER AND CANDIDATES:

Note: (i) For written paper, the students will be required to attempt five questions in all. Question No. I will be compulsory comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine answer type questions out of twelve. Question No. I would carry 18 marks (9X2).

In addition to it, Questions No. II to IX will consist of **eight** long answer (Essay Type) questions which will be further divided into four units with each Unit having **two questions** to ensure internal choice to the candidate. The students are required to attempt any four out of these eight essay type questions selecting one question from each Unit. In all, each question in this section shall carry 18 marks and this section shall carry 72 marks (4X18).

Course Contents

Unit I. Jainism: Life and Teachings of Mahavira ; origin and development of Jainism

Unit. II. Buddhism: Life and Teachings of Lord Buddha; origin and development of Buddhism

Unit. III. Sant Kabir: Life, Teachings and Contribution

Unit. IV. Sant Ravidas: Life, Teachings and Contribution

Essential Readings:

1. Chatterjee, Asim Kumar, *A Comprehensive History of Jainism*, Delhi: Munshilal Manoharlal Publishers, 2000.
2. Dutt R.C., *Buddhism & Buddhist Civilization in India*, Seema Publication, Delhi, 1983.
3. Goyal, S.R., *A History of Indian Buddhism*, Kusumanjali Prakashan, Meerut, 1987.
- 4 Vandeville, Charlotte, *A Weaver Named Kabir*, Oxford: India Paperbacks, 1997.
- 5 ਸਰਬਜਿੰਦਰ ਸਿੰਘ, ਡਾ. (ਸੰਪਾ.) 'ਵਿਸ਼ਵ ਧਰਮ ਬਾਨੀ ਗ੍ਰੰਥ, ਸੰਪ੍ਰਦਾਇ ਅਤੇ ਚਿੰਤਕ' ਭਾਗ ਤੀਜਾ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2009
- 6 ਸਿੰਗਲ, ਧਰਮ ਪਾਲ ਡਾ., *ਗੁਰੂ ਰਵਿਦਾਸ, ਜੀਵਨ ਤੇ ਵਿਚਾਰ*, ਲੋਕਗੀਤ ਪ੍ਰਕਾਸ਼ਨ, ਸਰਹਿੰਦ, 2001
- 7 ਸਰਾਓ, ਕਰਮਤੇਜ ਸਿੰਘ, *ਪ੍ਰਾਚੀਨ ਭਾਰਤੀ ਬੁੱਧ ਧਰਮ: ਉਦਭਵ, ਵਿਕਾਸ ਤੇ ਪਤਨ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2007.
- 8 ਕੁਮਾਰ ਲਾਲ ਬਸੰਤ, *ਸਮਕਾਲੀ ਭਾਰਤੀ ਦਰਸ਼ਨ*, ਮੋਤੀ ਲਾਲ ਬਨਾਰਸੀ ਦਾਸ, ਦਿੱਲੀ 2006 (ਹਿੰਦੀ)
- 9 ਜੋਸ਼ੀ, ਐਲ. ਐਮ., (ਸੰਪਾ.), *ਯੱਮਯੱਦ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 1990.
- 10 ਬ੍ਰਹਮਜਗਦੀਸ਼ ਸਿੰਘ, *ਸੰਤ ਕਬੀਰ, ਜੀਵਨ ਦਰਸ਼ਨ ਅਤੇ ਬਾਣੀ*, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਉਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ, 2002
- 11 ਨਾਨਕ ਪ੍ਰਕਾਸ਼ ਪੱਤ੍ਰਿਕਾ: *'ਧਰਮ ਸੰਪ੍ਰਦਾਇ ਵਿਸ਼ੇਸ਼ ਐਂਕ' ਦਸੰਬਰ 2005-ਐਂਕ ਦੂਜਾ* ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2001

Further readings:

1. Grewal, J.S., *Religious Movements and Institutions in Medieval India*, PHISPC, New Delhi: Oxford University Press, 2006.
2. Lopez, Jr., Donald S. (Ed.) *Buddhism in Practice*, New Delhi, 1998.
3. Vandeville, Charlotte, *Myths, Saints and Legends in Medieval India*, Delhi: Oxford University Press, 1999.

HOME SCIENCE

SEMESTER- I

Scheme of Examination

| Sr. No. | Theory | | | | | Practical | | | | |
|----------------|--|---------------|--------------|----------------|-----------|---------------|--------------|----------------|------------|-------------|
| | Name of Paper | No. of Papers | Time in hrs. | Marks allotted | Int. Ass. | No. of Papers | Time in hrs. | Marks Allotted | Int. Ass. | Total Marks |
| 1. | Family Resource Management, Hygiene & Health | 1 | 3 | 45 | 05 | 1 | 3 | 45 | 05 | 100 |
| Total : | | | | | | | | | 100 | |

Note : 1. Each Practical group will have 12-15 students.

PAPER : FAMILY RESOURCE MANAGEMENT, HYGIENE & HEALTH

| | |
|-------------------|---------------------------|
| Max. Marks | : 50 |
| Theory | : 45 |
| Int. Ass. | : 05 |
| Periods | : 6 Hours per Week |

INSTRUCTIONS FOR THE PAPER SETTER :

The question paper will consist of five Sections : A, B, C, D and E. Sections A, B, C and D will have **two** questions from the respective sections of the syllabus and will carry 9 marks each. Section E will consist of objective type questions covering the entire syllabus uniformly and will carry 9 marks.

INSTRUCTIONS FOR THE CANDIDATES :

Candidates are required to attempt one question each from the Sections A, B, C and D of the question paper and the entire section E.

Section A

- I (a) Meaning & Importance of Home Science.
 (b) Functions of Home.
- II (a) Home Scientist as an Entrepreneur.
 (b) Agencies promoting Entrepreneurship- Commercial Banks, District Industries, Co-operative Societies.

Section B

III Interior Decoration

- (a) Elements of Art - Line, Form, Pattern, Texture, Colour, Light and Space.
- (b) Principles of Art in relation to interior decoration - Harmony, Balance, Rhythm, Proportion & Emphasis.

IV Colour

- (a) Characteristics of colour
- (b) Colour wheel
- (c) Colour schemes

Section C

V Hygiene & Health

- (a) Definition of Hygiene, Health
- (b) Definition of infection, sources, carrier and control
- (c) Definition and types of immunity.
- (d) Immunization schedule

VI Causes & Spread of following diseases.

- (a) Caused by insects – Malaria & Dengue
- (b) Conveyed by ingestion – Enteric Fever, Cholera, Dysentery & Diarrhea
- (c) Spread by droplet infection- chickenpox, measles, mumps & TB.
- (d) Sexually transmitted diseases -AIDS.

Section D

VII Food Hygiene

- (a) Definition
- (b) Hygiene during preparation, service and storage of food.
- (c) Domestic purification of water-
 - Aquaguard
 - Reverse Osmosis

VIII Food Adulteration

- (a) Definition
- (b) Common food adulterants and their effects on health.
- (c) Household Methods of testing food adulteration.

PRACTICAL

Max. Marks : 50 Marks
Practical Theory : 45 Marks
Inter. Asses. : 05 Marks
Time : 3 hours per week.

1. Floor Decoration - Making of Alpana and Rangoli for different occasions.
2. Methods of detecting adulteration in any five foods such as ghee, castor sugar, milk, honey, red chili powder, tea leaves, turmeric powder etc.
3. Table setting, Table manners and Napkin foldings.
4. Making of a Chart/Model/Poster of Colour Wheel or Colour Schemes.
5. Survey of 5 households to study Immunisation schedule.

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HOME SCIENCE SEMESTER- II

| Scheme of Examination | | | | | | | | | | |
|------------------------------|--|--------|---------|----------|------|------------------|------|----------|------|------------|
| | Theory | | | | | Practical | | | | |
| Sr. | Name of | No. of | Time | Marks | Int. | No. of | Time | Marks | Int. | Total |
| No. | Paper | Papers | in hrs. | allotted | Ass. | Papers | in | Allotted | Ass. | s |
| | | | | | | | hrs. | | | |
| 1. | Family Resource Management, Hygiene & Health | 1 | 3 | 45 | 05 | 1 | 3 | 45 | 05 | 100 |
| Total : | | | | | | | | | | 100 |

Note: 1. Each Practical group will have 12-15 students.

PAPER: FAMILY RESOURCE MANAGEMENT, HYGIENE & HEALTH

| | |
|-------------------|---------------------------|
| Max. Marks | : 50 |
| Theory | : 45 |
| Int. Ass. | : 05 |
| Periods | : 6 Hours per Week |

INSTRUCTIONS FOR THE PAPER SETTER:

The question paper will consist of five Sections: A, B, C, D and E. Sections A, B, C and D will have **two** questions from the respective sections of the syllabus and will carry 9 marks each. Section E will consist of objective type questions covering the entire syllabus uniformly and will carry 9 marks.

INSTRUCTIONS FOR THE CANDIDATES:

Candidates are required to attempt one question each from the Sections A, B, C and D of the question paper and the entire section E.

Section A

I. Resources

- (a) Introduction
- (b) Classification

II. Time Management

- (a) Steps in making time plans.
- (b) Tools in time management- peak loads, work curves and rest periods.

- III. Money Management
- (a) Types of Income
 - (b) Budget- Types, Advantages and limitations of budgeting, factors affecting budget, basic steps in planning of budget.
 - (c) Means of supplementing family income.

IV. Energy Management

- (a) Fatigue – Types, Symptoms & Effects.
- (b) Work Simplification (Mundel)

Section B

V. Furniture

- (a) Factors affecting selection of furniture.
- (b) Furniture requirement and arrangement for different rooms.
 - (1) Master Bedroom
 - (2) Drawing Room
 - (3) Dining Room
 - (4) Children's Room

VI. Flower Arrangement

- (a) Definition and Types
- (b) Principles of art in flower arrangement
- (c) Material and Essential equipment used in Flower Arrangement.

Section C

VII. The Home maker as a Consumer

- (a) Concept and objectives of Consumer Education.
- (b) Rights and responsibilities of a Consumer.
- (c) Malpractices in the production of consumer goods.
- (d) Consumer guides- Standardized marks, labels, packaging, media and consumer redressal forum.

VII. Health Education

- (a) Aims and Objectives
- (b) Scope
- (c) Importance

Section D

IX. Digestive System

- (a) Diagram of Alimentary Canal
- (b) Functions of mouth, stomach, intestines (Small and Large)
- (c) Digestion of Carbohydrates, proteins and fats.

- X. Simple first aid for burns, poisoning, electric shock, bleeding, drowning, fainting, fractures, insect bite, snake bite, nose bleeding, sunstroke, sprain, heart attack.

PRACTICAL

Max. Marks : 50 Marks
 Practical : 45 Marks
 Inter. Asses. : 05 Marks
 Time : 3 hours per week.

1. Making of fresh flower arrangement for a corner and centre table.
2. Introduction to basic first aid techniques.
3. Cleaning & Polishing of household metals: brass, copper, silver, iron, aluminium, plastic and nonstick ware.
4. Cleaning and polishing of Wooden Furniture.
5. Cleaning of Glass windowpanes.

References

1. Anna Hong Rutt : *Home Furnishing*, Wiley Eastern Ltd., New Delhi, 1973.
2. Hazel Thompson, Criag old Day Rush : *Home with character*, Univesal Book Stall, Delhi, Kanpur 1969.
3. Betty Pepis : *Interior Decoration A to Z*, Doubleday & Co., Inc. New York, 1965.
4. Ray Faulkner, Sarah Faulkner : *Inside Today's Home*, Holt, Rinehart & Winston, 1973.
5. R.S. Deshpandae : *Modern Ideal Home for India*, United Book Corporation, Poona, 1983.
6. R.S. Deshpandae : *Build your own Home*, United Book Corporation, Poon, 1983.
7. M.A. Varghese, N.M. Ogale, K. Srinivisan : *Home Management*, Wiley Eastern Ltd., 1985.
8. The Educational Planning Group, Delhi : *Home Management*, Arya Publishing House, New Delhi, 1986.
9. Stella Sournderaj : *A text book of Household Arts*, Orient Longman Ltd., 1974.
10. A Margaret Kaye : *A Student Hand Book of Housewifery*, J.M. Dent and Sons Ltd., London, 1958.
11. Ball, Vetrico Kloss : *Art of Interior Design*, The Macmillan Co., New York, 1962.
12. Goldstein H.I. and Goldstein V. : *Art in Everyday Life*, Macmillan, New York, 1964.
13. Swanson, Betty : *Introduction to Home Management*, Macmillan Co., New York, 1981.
14. Julia Elements : *101 ideas for flower arrangement*, C. Arthur Persons Ltd., London, 1963.
15. Halse A.O. : *The Use of Colour in Interior*, Mcgraw Hill Book Co., New York, 1961.
16. Walter Ian Fischman, Richerd Demsbe, William Bernard: *Basic Home Repairs*, A Grosset Super Good Life Book Publishers, New York, 1975.
17. Saxena, R. R. (1990) *Social and Preventive Medicine*, CBS Publishers and Distributors, Delhi.
18. Selman, A. C. (1992) *Health & Longevity*, Oriental watchman Publishing house, Park, Poona, India.
19. Bedi, Y. P. : *Hygiene and Public Health*.
20. Pearce Evelyn. C., *Anatomy and Physiology for Nurses*, Oxford University.
21. Best, Charles, H.and Taylor, N.B., *The Living Body – A Text in Human Physiology*, Asia Publishing House.
22. Phadke : *Aids to Hygiene*
23. Bhatia, B.C. and Sri P.N. (1968), *Elementary Hygiene*, Oriental Longman.
24. Seetharam, (2005) *An Introduction to Family Resource Management*, CBS Publishers and Distributors, Delhi.
25. Kaur and Macneil, (1994), *Theory and Practice of Home Science*, Subject Publication, New Delhi.

Journals

1. Indian Journal of Home Science, Home Science Association of India, Sri Avinashilingam Home Science College for Women, Coimbatore.
2. Inside Outside, Edited and Published by Malika Sarabhai, Wadia Building, 19/21 Dalal Street, Bombay.
3. Journal of Home Economics, American Home, A Venue, NW Wahington.

ENVIRONMENT CONSERVATION

SEMESTER – I

Paper : ENVIRONMENT AND FORESTRY

| Theory hours | Practical hours | Theory marks | Internal Assessment Marks | Practical marks | Practical-Internal Assessment Marks | Total marks |
|--------------|-----------------|--------------|---------------------------|-----------------|-------------------------------------|-------------|
| 6 | 4 | 65 | 10 | 25 | - | 100 |

The number of hours for theory and practical per week shall be 6 hours and 4 hours, respectively.

Note: The practical will include survey and its project reports carrying 5 marks and 20 marks will be allotted to laboratory practical.

Instructions for paper setters:

There will be 9 questions in all, two each from Section I to IV. All questions will carry equal marks (13 marks each). Question No. I will be short answer type & will cover the whole syllabus. Candidates will attempt five questions in all, selecting one each from Section I to IV and the first compulsory question.

PAPER : ENVIRONMENT AND FORESTRY

UNIT-I

Environment: Definition, Scope & importance of Environment. A brief introduction of Physical & biological environment.

Ecosystem: Concept of Ecosystem, Biotic & abiotic components, food chain, food web trophic levels, types of ecosystems, terrestrial and aquatic. Biogeochemical cycles - nitrogen, carbon, phosphorous and sulphur cycle.

UNIT-II

Natural Resources: Definition, type of natural resources (Renewable and nonrenewable natural resources) and the policies of their conservation. Energy resources; Fossil fuel, Alternative source of energy (Solar energy, wind power, geothermal energy, dung energy and wood energy).

UNIT-III

Forestry: Forestry, Concept, types of forests in India & the world. Deforestation, reforestation and afforestation. Major and minor forest products. Reasons of forest destruction and its impact on Environment. Community forestry, Farm forestry, Social forestry and Agroforestry.

UNIT-IV

Indoor Environment: Pollution of the in house environment pollutants in the offices, workplaces (School, Bus stand, College and Kitchens). Environmental problems linked to urban and rural lifestyle, Adulterants; Food adulterants (Wheat flour, milk, red chili powder, mustard oil, desi ghee, sweets, artificial sweetness, dyes, food allergens).

PRACTICAL

(Based on theory paper)

Laboratory work: Tests of food adulterants.

Study the forest products with help of charts and specimens.

Survey reports of indoor environmental pollutants and local forests.

A visit to forest to study different components of these ecosystems.

Books Recommended :

1. Purochit, S.S., Shammi, Q.J. & Agarwal, : Text Book of Environment Sciences, Saraswati Pub., Jodhpur, A.K. 2007.
2. Dhaliwal, G.S & Kukul, S.S. : Essentials of Environmental Sciences, Kalyani Pub., Ludhiana, 2008.
3. Chundawat, B.S. & Gautam, S.K : Text Book of Agroforestry, Raju Primalai, New Delhi. 2006.
4. Chandna, R.C. : Environmental Geography, Kalyani Pub., Ludhiana, 2006.
5. Sagreiya, K.P. : Forests and Forestry, National Book Trust, New Delhi, 2007.
6. Ralhon, P.K., Dhaliwal, G.S. & Avtar Singh : The Forests-Production and Management, Kalyani Pub., Ludhiana.
7. Arora, S. : Fundamentals of Environmental Biology, Kalyani Pub., Ludhiana, 2008.
8. Dwivedi, A.P. : Forestry in India, Surya Publications, Dehradun, 1993.

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ENVIRONMENT CONSERVATION**SEMESTER – II****PAPER : SOIL AND WATER POLLUTION**

| Theory hours | Practical hours | Theory marks | Internal Assessment Marks | Practical marks | Practical-Internal Assessment Marks | Total marks |
|---------------------|------------------------|---------------------|----------------------------------|------------------------|--|--------------------|
| 6 | 4 | 65 | 10 | 20 | 5 | 100 |

The number of hours for theory and practical per week shall be 6 hours and 4 hours, respectively.

Note: The practical will include survey and its project reports carrying 5 marks, and 20 marks will be allotted to laboratory practical.

Instructions for paper setters:

There will be 9 questions in all, two each from Section I to IV. All questions will carry equal marks (13 marks each). Question No. I will be short answer type & will cover the whole syllabus. Candidates will attempt five questions in all, selecting one each from Section I to IV and the first compulsory question.

PAPER : SOIL AND WATER POLLUTION**UNIT-I**

Lithosphere: Meaning of Soil profile, its components, types of soil, physical-chemical properties of soil.

Soil Fertility: Micro-and macro-nutrients, technique of testing soil sample. Methods of increasing soil fertility, merits and demerits of fertilizers, role of soil microorganisms.

UNIT-II

Degradation of soil: Soil erosion (Water and Wind erosion) causes of effect of erosion. Soil pollution: Different types of soil pollutants (Chemicals, Pesticides, Fertilizers & manure, discarded material. Pollution and control measures.

UNIT-III

Hydrosphere: Major sources and uses of water. Overutilization of surface & ground water, floods, drought. Conflicts over water. Potable water, its characteristics. Water cycle (Global and Biological)

UNIT-IV

Water pollution: Definition, Types & Sources of water pollution, its consequences and control measures. Different types of diseases due to water pollution. Treatment of wastewater by green method (Root-zone technology), Marine pollution - a brief account.

PRACTICAL

Determination of soil pH

Use of Portable Kit

Determination of organic matter in soil

Determination of CaCO₃ in soil.

Determination of available Nitrogen in soil.

Identification of different fertilizers.

Determination of pH of water.

Determination of organic carbon.

Determination of microbial carbon.

Determination of available Nitrogen.

Determination of dissolved Oxygen, BOD.

Determination of hardness and alkalinity of water.

Survey reports of different water samples in local and adjoining areas and interpretation of water test report.

Books Recommended

1. Singh, R.A. : Soil Physical Analysis, Kalyani Publishers, Delhi, India, 1989.
2. Rao, Sitaram : Introduction to Soil Forestry, Oxford and IBH, New Delhi, 1979.
3. Gupta, P.K. : A Handbook of Soil Fertilizer and Manure, Agrobios, Jodhpur, India, 2003.
4. Miller, R.W. and Donahue, R.L. : Soils in our Environment , Prentice Hall, USA, 1995.
5. Mahajan, S.P. : Air Pollution, Control, TERI Press, Delhi, India, 2009
6. Kudeshia, V.P. : Water Pollution, Prgati Parkashan, New Delhi, India, 2009
7. Hooja, R. : Management of water for Agriculture: Irrigation, Watersheds, and Drainage, Rawat Publications, India, 2009.
8. Goel, P.K. : Water Pollution: Causes, Effects and Control, New Age International Publishers, New Delhi, 2006
9. Ramachandra, T.V. : Soil and Groundwater Production from Agricultural Activities, TERI Press, New Delhi, India, 2006

MATHEMATICS**SEMESTER – I****Paper-I : PLANE GEOMETRY**

Max. Marks : 30
Time : 3 Hours

- Note:**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester

Unit-I

Transformation of axes in two dimensions: Shifting of origin, rotation of axes, invariants.

Pair of Straight Lines :

Joint equation of pair of straight lines and angle between them, Condition of parallelism and perpendicularity, Joint equation of the angle bisectors, Joint equation of lines joining origin to the intersection of a line and a curve.

Circle :

General equation of circle, Circle through intersection of two lines, tangents, normals, chord of contact, pole and polar, pair of tangents from a point, equation of chord in terms of mid-point, angle of intersection and orthogonality, power of a point w.r.t. circle, radical axis, co-axial family of circles, limiting points.

Unit-II**Conic :**

General equation of a conic, tangents, normals, chord of contact, pole and polar, pair of tangents from a point, equation of chord in terms of mid-point, diameter. Conjugate diameters of ellipse and hyperbola, special properties of parabola, ellipse and hyperbola, conjugate hyperbola, asymptotes of hyperbola, rectangular hyperbola. Identification of conic in general second degree equations.

References :

1. S. L. Loney : *The Elements of Coordinate Geometry*, Macmillan and Company, London, 2nd Edition 2007.
2. P.K. Jain and Khalil Ahmad : *A Text Book of Analytical Geometry of Two Dimensions*, Wiley Eastern Ltd., 1999.
3. Erwin Kreyszig : *Advanced Engineering Mathematics*, John Wiley & Sons, 1999.
4. Gorakh Prasad and H.C. Gupta : *Text Book on Coordinate Geometry*, Pothishala Pvt. Ltd., Allahabad, 1955.

Paper-II : CALCULUS - I

Max. Marks : 30
Time : 3 Hours

- Note:**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester

Unit-I**Properties of real numbers :**

Order property of real numbers, bounds, l.u.b. and g.l.b. order completeness property of real numbers, archimedean property of real numbers.

Limits:

$\mathcal{E} - \delta$ definition of the limit of a function, basic properties of limits, infinite limits, indeterminate forms.

Continuity:

Continuous functions, types of discontinuities, continuity of composite functions, continuity of $|f(x)|$, sign of a function in a neighborhood of a point of continuity, intermediate value theorem, maximum and minimum value theorem.

Unit-II**Mean value theorems:**

Rolle's Theorem, Lagrange's mean value theorem, Cauchy's mean value theorem, their geometric interpretation and applications, Taylor's theorem, Maclaurin's theorem with various form of remainders and their applications.

Hyperbolic, inverse hyperbolic functions of a real variable and their derivatives, successive differentiations, Leibnitz's theorem.

References :

1. J. D. Murray & M. R. Spiegel : *Theory and Problems of Advanced Calculus*, Schaum's Outline Series, Schaum Publishing Co., New York.
2. P.K. Jain and S. K. Kaushik : *An Introduction to Real Analysis*, S. Chand & Co., New Delhi, 2000.
3. Gorakh Prasad : *Differential Calculus*, Pothishala Private Ltd., Allahabad.
4. G.B. Thomas & R.L. Finney : *Calculus and Analytic Geometry (Ninth Edition)*, Pearson Publication.
5. Shanti Narayan and P.K. Mittal : *Differential Calculus, Edition 2006*, S. Chand & Co., New Delhi.

Paper III: TRIGONOMETRY AND MATRICES

Max. Marks : 30
Time : 3 Hours

- Note:**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester

Unit-I

D'Moivre's theorem, application of D'Moivre's theorem including primitive n^{th} root of unity. Expansions of $\sin n\theta$, $\cos n\theta$, $\sin^n \theta$, $\cos^n \theta$ ($n \in \mathbb{N}$). The exponential, logarithmic, direct and inverse circular and hyperbolic functions of a complex variable. Summation of series including Gregory Series.

Unit-II

Hermitian and skew-hermitian matrices, linear dependence of row and column vectors, row rank, column rank and rank of a matrix and their equivalence. Theorems on consistency of a system of linear equations (both homogeneous and non-homogeneous). Eigen-values, eigen-vectors and characteristic equation of a matrix, Cayley-Hamilton theorem and its use in finding inverse of a matrix. Diagonalization.

References:

1. K.B. Datta : *Matrix and Linear Algebra*, Prentice Hall of India Pvt. Ltd., New Delhi, 2000.
2. S. R. Knight and H.S. Hall : *Higher Algebra*, H.M. Publications, 1994.
3. R.S. Verma and K.S. Shukla : *Text Book on Trigonometry*, Pothishala Pvt. Ltd., Allahabad.
4. Shanti Narayan and P.K. Mittal : *A Text Book of Matrices*, S. Chand & Co., New Delhi, Revised Edition, 2007.

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MATHEMATICS**SEMESTER – II****Paper-I : SOLID GEOMETRY**

| | | |
|------------|---|---------|
| Max. Marks | : | 30 |
| Time | : | 3 Hours |

- Note:**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester

Unit-I**Transformation of axes:**

Shifting of origin and rotation of axes.

Sphere:

Section of a sphere and a plane, spheres through a given circle, intersection of a line and a sphere, tangent line, tangent plane, angle of intersection of two spheres and condition of orthogonality, power of a point w.r.t. a sphere, radical axis, radical center, co-axial family of spheres, limiting points.

Cylinder:

Cylinder as a surface generated by a line moving parallel to a fixed line and through a fixed curve, different kinds of cylinders such as right circular, elliptic, parabolic and hyperbolic cylinders in standard forms, enveloping cylinders.

Unit-II**Cone:**

Cone with a vertex at the origin as the graph of a homogeneous equation of second degree in x, y, z , cone as a surface generated by a line passing through a fixed curve and a fixed point outside the plane of the curve, reciprocal cones, right circular and elliptic cones, right circular cone as a surface of revolution obtained by rotating the curve in a plane about an axis, enveloping cones.

Conicoid:

Equations of ellipsoid, hyperboloid and paraboloid in standard form. Reduction of second degree equation in three variables in standard form.

References:

1. P.K.Jain and Khalil Ahmad : A Text Book of Analytical Geometry of Three Dimensions, Wiley Eastern Ltd., 1999.
2. Shanti Narayan and P. K. Mittal : Analytical Solid Geometry, Seventeenth Revised Edition, S. Chand & Co., New Delhi, 2006.
3. R.J.T. Bill : Elementary Treatise on Coordinate Geometry of Three Dimensions, Macmillan India Ltd., 1994.

Paper-II : CALCULUS - II

| | | |
|------------|---|---------|
| Max. Marks | : | 30 |
| Time | : | 3 Hours |

- Note:**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester

Unit-I

Concavity, convexity and points of inflexion, Multiple points, Asymptotes, Tracing of curves (Cartesian and parametric co-ordinates only).

Curvature:

Curvature of a curve at a point, radius of curvature of cartesian, parametric, polar curves and for implicit functions , evolute and involute, chord of curvature.

Unit-II**Integral calculus:**

Integration of hyperbolic and inverse hyperbolic functions. Reduction Formulae.

Numerical Integration: Trapezoidal, Prismoidal and Simpson Rules.

Application of definite integral: Summation of Series, Quadrature, rectification, volumes and surfaces of solids of revolution (Cartesian co-ordinates only)

References:

1. G. B. Thomas & R. L. Finney : Calculus and Analytic Geometry (Ninth edition), Pearson Publication.
2. Gabriel Klambauer : Mathematical Analysis, Marcel Dekkar, Inc. New York, 1975.
3. N. Piskunov : Differential and Integral Calculus, Peace Publishers, Moscow.
4. P. K. Jain and S. K. Kaushik : An Introduction to Real Analysis, S. Chand & Co. New Delhi, 2000.

Paper III: THEORY OF EQUATIONS

Max. Marks : 30
Time : 3 Hours

- Note:**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester

Unit-I

Euclid's algorithm, synthetic division, roots and their multiplicity. Complex roots of real polynomials occur in conjugate pairs with same multiplicity. Relation between roots and co-efficients. Transformation of equations. Descartes' Rule of Signs.

Unit-II

Newton's method of divisors, Solution of cubic and bi-quadratic equations, Cardan's method of solving a cubic, discriminant and nature of roots of real cubic, trigonometric solutions of a real cubic with real roots. Descartes' and Ferrari's method for a bi-quadratic.

References:

1. S.R. Knight and H.S. Hall : Higher Algebra, H. M. Publications, 1994.
2. Chandrika Prasad : Text Book on Algebra and Theory of Equations, Pothishala Private Ltd., Allahabad.

COMPUTER SCIENCE**SEMESTER-I****SCHEME OF EXAMINATION**

| FIRST SEMESTER | | | Exam . Hrs | Ext. | Int. | Max. Marks |
|----------------|-------------|---------------------------------|---------------|------|------|---------------|
| Paper – CS01 | Theory-A | Computer Fundamentals | 3 | 30 | 5 | 35 |
| Paper –CS02 | Theory-B | PC Software | 3 | 30 | 5 | 35 |
| Paper – PCS01 | Practical-C | Practical Based on Paper – CS01 | 3 | 30 | -- | 30 |

Note : Practical marks will include the appropriate weightage for proper maintenance of Lab. Record.

Paper-CS01 : Computer Fundamentals

Objective : To teach the students the fundamentals of computer related to its hardware & software.

- Note :*
- (i) The question paper will consist of Four units.
 - (ii) Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering the whole syllabi.
 - (iii) The students are required to attempt **ONE** question from each unit and the compulsory question.
 - (iv) All questions carry equal marks unless specified.

UNIT - I

Computer Appreciation: Introduction to computers, characteristics of computer; History of computers; Classification of computers on size: (Micro, Mini, Mainframe and super computers), Working Principles, Generations; Applications of computers; commonly used terms–Hardware, Software, Firmware. Basic Computer Organization: Block diagram of computer system, Input unit, Processing Unit and Output Unit; Description of Computer input devices: Keyboard, Mouse, Trackball, Pen, Touch screens, Scanner, Digital Camera; Output devices: Monitors, Printers, Plotters.

UNIT –II

Computer Memory: Representation of information: BIT, BYTE, Memory, Memory size; Units of measurement of storage; Main memory: main memory organization, RAM, ROM, PROM, EPROM; Secondary storage devices: Sequential Access Memory, Direct Access Memory Magnetic Tapes, Magnetic disks, Optical disks: CD, DVD; Memory storage devices: Flash Drive, Memory card;

UNIT – III

Types of software: System and Application software; **Programming Languages:** Generation of Languages; Translators - Interpreters, Compilers, Assemblers and their comparison. **Range of Applications:** Scientific, Word Processing, Spread Sheets, E-commerce, Business, Educational, Industrial, National level weather forecasting, Remote Sensing, Planning Multilingual Applications.

UNIT – IV

Operating Systems : Components of Operating System; Functions of Operating System; Types of Operating System; Linux/Dos/Windows. **Computers and Communication:** Single user, multi-user, workstation, and client server systems. Computer networks, Network protocols. LAN, WAN, Services offered by Internet.

Suggested Readings :

1. Basandra, S.K. : Computers Today, Galgotia.
2. Sinha P.K. & Sinha Priti : Computer Fundamentals, BPB Publications

Paper-CS02: PC Software

Objective : To teach the basic functionality of Disk Operating System & Windows. To impart detailed knowledge for creating word processing, spreadsheet & presentation documents.

- Note :*
- (i) The question paper will consist of Four units.
 - (ii) Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering the whole syllabi.
 - (iii) The students are required to attempt **ONE** question from each unit and the compulsory question.
 - (iv) All questions carry equal marks unless specified.

UNIT – I

Concept of files and directories; Disk Operating System: DOS, System Files, types of DOS commands: Internal and External commands: Introduction to AUTOEXEC.BAT, Directory commands: XCOPY, DEL, RENAME, ATTRIB, BACKUP, RESTORE, FIND, SYS; General commands: TYPE, DATE, TIME, PROMPT; Batch Files, Wild Cards, Line Editor.

UNIT – II

Introduction to graphical user interface, window operating system, Anatomy of windows, organizing folders and files, recycle bin, my computer, windows explorer, control panel.

UNIT – III

Word Processing : Basics of Word Processing; Opening, Creating, Saving, Printing and Quitting Documents, Using the Interface (Menu Toolbars), Editing Text (Copy, Delete, Move), Finding and Replacing Text, Spell Check, Autocorrect; Auto Text, Character formatting, Page formatting; Document Enhancement; Adding Borders and shading, Adding Headers and Footers, Setting up Multiple columns, Sorting blocks, Adjusting Margins and Hyphenating Documents, Creating Master Documents, Creating Data Source, Merging Documents, Using Mail merge feature for labels and envelopes; Inserting Pictures, Tables, Working with equations.

UNIT – IV

Spread Sheet : Worksheet overview, Row, Column, Cells, Menus, Creating Worksheet, Opening, Saving, Printing Worksheets; Calculations, Auto fill, Working with Formulae, Data Formatting (number formatting, date formatting), Working with Ranges, Establishing Worksheet links; Creating, Sorting and Filtering Data Base; Creating chart, Adding Titles, Legends etc. to charts, Printing Charts, Creating Macros, Record Macros, Running Macros, Assigning Macros to Buttons, Functions (Statistical, Financial, Mathematical, String, Date and Time).

MS-Power Point: Creating, Saving, Printing Presentation; Selecting Design Templates, Animations and Transitions, Auto Content Wizard.

Suggested Readings :

1. Ludd Robbins : *Mastering DOS*.
2. Alan R. Miller : *The ABC's of DOS-6.2*.
3. Richard Allen King : *MS-DOS H. B.*
4. Gilbert Held : *IBM PC and PCXT User's Reference Manual*.
5. Cowart, Robert : *Using Microsoft Windows 2000 Professional*, Que Publishing, 2000.
6. Taxali, Ravikant : *PC Software Made Simple*, New Delhi.
7. Mansfield, Ron : *Compact Guide to Windows, Word & Excel*.

Paper – PCS01 : Practical : Practicals Based on Paper CS02

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COMPUTER SCIENCE SEMESTER-II

SCHEME OF EXAMINATION

| SECOND SEMESTER | | | Exam . Hrs | Ext. | Int. | Max. Marks |
|-----------------|-------------|---------------------------------|---------------|------|------|---------------|
| Paper – CS03 | Theory-A | Operating System Concepts | 3 | 30 | 5 | 35 |
| Paper –CS04 | Theory-B | C Programming | 3 | 30 | 5 | 35 |
| Paper – PCS02 | Practical-C | Practical Based on Paper – CS04 | 3 | 30 | -- | 30 |

Paper-CS03: Operating System Concepts

Objective : To teach the students various operating system concepts relating to managing processes, memory and deadlocks.

- Note :*
- (i) The question paper will consist of Four units.
 - (ii) Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering the whole syllabi.
 - (iii) The students are required to attempt **ONE** question from each unit and the compulsory question.
 - (iv) All questions carry equal marks unless specified.

UNIT - I

Operating Systems (OS): Introduction, need of operating system and functions of operating system, Types of OS: Multi-user, Multitasking, Multiprocessing and Real time Operating Systems, Parallel systems, Distributed systems; Structure of Operating System;

UNIT - II

Process Management: Introduction to Process, PCB, Process States, CPU Scheduling: Scheduling Criteria and Algorithms: FCFS, SJF, Priority, Round Robin, Multilevel Queue Scheduling, Multilevel Feedback Queue Scheduling.

UNIT - III

Deadlocks: Introduction, Necessary and sufficient conditions for Deadlocks, Resource allocation graph, Introduction to methods for handling deadlocks, deadlock prevention, deadlock avoidance: Banker Algorithm, deadlock detection and recovery.

UNIT - IV

Memory Management: Logical vs Physical address space, Swapping, Introduction to Paging, Segmentation, Virtual Memory-Demand paging, Introduction to Page Replacement algorithms: FIFO, Optimal Page replacement and LRU

Suggested Readings :

Essential :

1. Peterson, J.L.& Silberschatz, A., Operating System Concept, Addison Wesley, reading.

Further Reading :

2. Brinch, Hansen, Operating System Principles, Prentice Hall of India
3. Haberman, A.N., Introducing to Operating System Design Galgotia Publication, New Delhi

Paper-CS04 : C Programming

Objective : To teach the student basic constructs of ‘C’ programming language and enable them to create ‘C’ based applications.

Note : (i) The question paper will consist of Four units.

(ii) Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering the whole syllabi.

(iii) The students are required to attempt **ONE** question from each unit and the compulsory question.

(iv) All questions carry equal marks unless specified.

UNIT – I

Programming Process: Steps in developing of a program, Data Flow Diagram, Decision Table, Algorithm development, Flowchart, Pseudo Code, Testing and Debugging.

Fundamentals of C Languages: History of C, Character Set, Identifiers and Keywords, Constants, Types of C Constants, Rules for Constructing Integer, Real and character Constants, Variables, Data Types, rules for constructing variables.

UNIT – II

Operators and Expressions: C Instructions, Arithmetic operators, Relational operators, Logical operators, Assignment Operators, Type Conversion in Assignments, Hierarchy of Operations, Standard and Formatted Statements, Structure of a C program , Compilation and Execution.

Decision Control Structure: Decision making with IF-statement, IF-Else and Nested IF-Else, The else if Clause.

Loop Control Structure: While and do-while, for loop and Nested for loop,

Case Control Structure: Decision using switch, The goto statement.

UNIT – III

Functions: Library functions and user defined functions, Global and Local variables, Function Declaration, Calling and definition of function, Methods of parameter passing to functions, recursion, Storage Classes in C.

Arrays: Introduction, Array declaration, Accessing values in an array, Initializing values in an array, Single and Two Dimensional Arrays, Initializing a 2-Dimensional Array, Memory Map of a 2-Dimensional Array, Passing array elements to a function.

UNIT – IV

String Manipulation in C: Declaring and Initializing string variables, Reading and writing strings, String Handling functions (strlen(), strcpy(), strcmp(), strcat()).

Structures and Unions: Declaration of structures, Structure Initialization, Accessing structure members, Union, Difference between Structure and Union .

Suggested Readings :

Essential :

1. Yashavant P. Kanetkar : Let us C, BPB Publications, New Delhi.

Further Reading :

2. Salaria, R.S. : Test Your Skills in C, Salaria Publications, New Delhi.
3. C. Balaguruswami : Programming with C Language, Tata McGraw Hill, New Delhi.
4. Byron S. Gottfried : Programming in C, McGraw Hills Publishers, New York.
5. M.T. Somashekara : Programming in C, Prentice Hall of India.

Paper – PCS02 : Practical : Practical Based on Paper CS04.

STATISTICS

SEMESTER – I

- Note :**
1. A candidate shall offer this subject in B.A./B .Sc. only if he/she takes up Mathematics as a subject in B.A./B.Sc.
 2. There are two papers code named papers 101 and 102 in the subject of Statistics in B.A./B.Sc. 1st Semester. These are to be taught simultaneously throughout the Semester.
 3. 8 lectures (45 minutes each) for theory per week and 4 lectures (45 minutes each) for practical per week amounting in all to 12 lectures per week for two papers (one theory and one practical) shall be allotted for the teaching.

Paper- 101: PROBABILITY THEORY and DESCRIPTIVE STATISTICS-I

| | |
|---------------------|-----------|
| Max. Marks | : 75 |
| Theory | : 65 |
| Internal Assessment | : 10 |
| Time | : 3 Hours |

Objective: The objective of the course is to make the students conversant with various techniques used in summarization and analysis of data. The focus will be both on theoretical as well as practical approach. This course will lay the foundation to probability theory of outcomes of real life random experiments. The focus will be on theoretical as well as practical approach.

Notes:

1. There will be in all nine (9) questions, all of equal marks. The first question is **compulsory** and will be of short answer type covering the entire syllabus. Out of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each Unit.
2. Simple non-programmable calculator is allowed.
3. Statistical tables and log tables will be provided on request.

Unit-I

Important Concepts in Probability: Random experiment, trial, sample point and sample space, definition of an event, mutually exclusive, exhaustive, independent and equally likely events. Definition of probability – classical and relative frequency approach to probability, their demerits and axiomatic approach to probability. Properties of probability based on axiomatic approach, conditional probability, Bayes' theorem and its applications (concepts and simple applications).

Random Variables: Definition of discrete random variables, probability mass function, continuous random variable, probability density function, illustrations of random variables and their properties, distribution function and its properties, expectation of a random variable and its properties – moments, (only definition), moment generating function. Two dimensional random variables- joint, marginal and conditional distributions . Distribution of random variables.

Unit-II

Collection of Data: Primary data – designing a questionnaire and a schedule. Secondary data- its major sources including some government publications. Concept of a Statistical Population and samples from a population; qualitative and quantitative data; discrete and continuous data.

Presentation of Data: Diagrammatic representations of data, frequency distribution, graphical representation, histogram, frequency polygon, frequency curves and ogives, stem-and-leaf-display, Box and whisker plot.

Analysis of Quantitative Data: univariate data concepts of central tendency, dispersion and relative dispersion, skewness and kurtosis and their measures including those based on quartiles and moments. Sheppard's correction for moments (without derivation).

Suggested Readings

1. Meyer P.L (1971) : *Introductory Probability and Statistical applications.*
Addison Wesley.
2. Goon A.M., Gupta M.K., Dasgupta.B. (2005) : *Fundamentals of Statistics, Vol. I,* World Press, Calcutta.
3. Daniel, W.W. and Cross C.L.(2013) : *Biostatistics (7th edition)* Wiley.

Additional Readings

1. Mood A.M, Graybill F.A and Boes D.C. (1977) : *Introduction to the Theory of Statistics,* McGraw Hill.
2. Miller, I. and Miller, M. (2002) : John E. Freund's *Mathematical Statistics* (6th addition, low price edition). Prentice Hall of India.
3. Sheldon M.R. (2000) : *Introduction to Probability Models,* Fourth Edition.
4. Croxton F.E, Cowden D.J and Kellin S (1973) : *Applied General Statistics,* Prentice Hall of India.
5. Lipshut Z, S., Lipson, Lipson, M.L. and Jain, K. (2010) : *Schaum's outlines on Probability,* Second Special Indian Edition, Tata McGraw Hill Education Private Limited.
6. Spiegel, M.R, Stephens, L.J. and Kumar N. (2010) : *Schaum's outlines Statistics,* (4th edition) Tata McGraw Hill Education Private Limited.

Paper-102 : PRACTICAL (SEMESTER-I)

Maximum Marks : 25
Time Allowed : 3 Hours

(Viva voce: 5 marks; record of the semester; 5 marks; Annual Paper: 15 marks)

Note: The Practical Question Paper will contain five questions from the following topics. A student will be required to attempt three questions, each of 5 marks, in three hours duration.

Viva voce and record of the year will carry 5 marks each.

1. Presentation of data by Frequency tables
2. Diagrams: Bar, Multiple Bar, Stacked Bar, Line and Pie
3. Graphs: histogram, frequency polygon, frequency curves and ogives, stem-and-leaf-display
4. Measures of central tendency
5. Measures of dispersion
6. Measures of Skewness
7. Box and Whisker Plot
8. Measures of Kurtosis.

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STATISTICS

SEMESTER-II

- Note:** 1. A candidate shall offer this subject in B.A./B.Sc. only if he/she takes up Mathematics as a subject in B.A./B.Sc.
2. There are two papers code named papers 103 and 104 in the subject of Statistics in B.A./B.Sc. 2nd semester. These are to be taught simultaneously throughout the semester.
3. 8 lectures (45 minutes each) for theory per week and 4 lectures (45 minutes each) for practical per week amounting in all to 12 lectures per week for two papers (one theory and one practical) shall be allotted for the teaching.

Paper - 103: PROBABILITY THEORY and DESCRIPTIVE STATISTICS-II

| | |
|----------------------------|------------------|
| Maximum Marks | : 75 |
| Theory | : 65 |
| Internal Assessment | : 10 |
| Time allowed | : 3 hours |

Objective: This course will lay the foundation to probability theory of outcomes of real life random experiments through various Statistical distributions.

The objective of the course is to make the students conversant with various techniques used in analysis of data.

Notes:

1. There will be in all nine (9) questions, all of equal marks. The first question is compulsory and will be of short answer type covering the entire syllabus. Out of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each Unit.
2. Simple non-programmable calculator is allowed.
3. Statistical **tables** and log tables will be provided on request.

Unit-I

Standard Univariate Distributions and their Properties: Discrete uniform, Binominal, Poisson, Hyper geometric, Geometric and negative binomial distributions, uniform, normal, exponential, gamma, beta distributions.

Bivariate normal distribution and associated marginal and conditional probability distributions (without derivation).

Chebyshev's inequality and its applications, statements and applications of weak law of large numbers, and Central Limit Theorems (De-moivre's – Laplace and Lindeberg -Levy).

Unit-II

Bivariate Data: scatter diagram, product moment correlation coefficient, properties and coefficient of determination. Spearman's rank correlation coefficient. Simple linear regression and its properties, principle of least square, fitting of linear regression and related results

Multivariate Data: multiple and partial correlation in three variables. (only results no derivations).

Analysis of Categorical Data (using 2x2 contingency table): consistency of categorical data independence and association of attributes. Various measures of association:-Yule coefficient, coefficient of colligation & coefficient V_{AB} .

References:

1. Meyer P.L (1971) : *Introductory Probability and Statistical applications.* Addison Wesley.
2. Goon A.M., Gupta M.K., Das : *Fundamentals of Statistics*, Vol. I, World Press, Calcutta. Gupta.B. (2005)
3. Daniel, W.W. and Cross C.L.(2013) : *Biostatistics: A Foundation for analysis in the Health Sciences*, Tenth Edition, Wiley

Additional References:

1. Mood A.M, Graybill F.A and Boes D.C. (1977) : *Introduction to the Theory of Statistics*, McGraw Hill.
2. Miller, I. and Miller, M. (2002) : John E. Frensd's *Mathematical Statistics* (6th addition, low price edition). Prentice Hall of India.
3. Sheldon M.R. (2000) : *Introduction to Probability Models*, Fourth Edition.
4. Croxton F.E, Cowden D.J and Kelin S (1973) : *Applied General Statistics*, Prentice Hall of India.
5. Lipshut Z,S., Lipson, Lipson, M.L. and Jain, K. (2010) : Schaum's outlines on Probability, Second Special Indian Edition, Tata McGraw Hill Education Private Limited.
6. Spiegel, M.R, Stephens, L.J. and Kumar N. (2010) Private Limited. Schaum's outlines *Statistics*, (4th edition) Tata McGraw Hill Education

Paper - 104: PRACTICAL (Semester-II)

Maximum Marks : 25

Time allowed : 3 hours

(Viva voce: 5 marks; record of the semester; 5 marks; Annual Paper: 15 marks)

Note: The Practical Question Paper will contain five questions from the following topics. A student will be required to attempt three questions, each of 5 marks, in three hours duration.

Viva voce and record of the year will carry 5 marks each.

1. Product Moment Correlation.
2. Spearman's rank correlation
3. Linear Regression of two variables.
4. Fitting of Curves (reducible to linear form) by the least square method.
5. Multiple and Partial correlations
6. Fitting of Binomial, Poisson and Normal distributions

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APPLIED STATISTICS

SEMESTER - I

- Note:**
1. This course shall not be opted for along with courses in B.A. /B.Sc Mathematics and/ or B.A. / B.Sc. Statistics.
 2. The candidate opting for this course will not be eligible for admission to M.A./ M.Sc. Statistics.
 3. There is one paper with code 101AS in B.A. /B.Sc. Semester-I having a total of 100 marks.
 4. 9 Lectures of 45 minutes each per week shall be allotted for the teaching.

Paper- 101AS: MATHEMATICAL METHODS – I

| | |
|----------------------------|------------------|
| Maximum Marks | : 100 |
| Theory | : 90 |
| Internal Assessment | : 10 |
| Time allowed | : 3 hours |

Objective: The objective of the course is to provide knowledge of the basic concepts in Calculus, Trigonometry, Algebra and Geometry.

Notes:

1. There will be in all nine (9) questions, all of equal marks. The first question is compulsory and will be of short answer type covering the entire syllabus. Out of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each Unit.
2. **Simple non-programmable calculator is allowed.**
3. **Statistical tables and log tables will be provided on request.**

UNIT-I (CALCULUS AND TRIGONOMETRY)

Limits and continuity of functions, derivatives and their geometrical interpretations. Applications of derivatives to maxima and minima, exponential and logarithmic functions, integrals of functions of one variable, geometrical interpretation of integral as area, integration of standard functions, integration by substitution and parts.

Trigonometry: Definition of an angle, its various measures and relations between them, graphs circular functions.

UNIT-II (ALGEBRA AND GEOMETRY)

The solution of linear and quadratic equations in one variable, arithmetic, geometric and harmonic progressions, permutations and combinations, principle of induction, Binomial theorem for positive integral index.

Elementary Analytical Geometry: Equations of straight line, parabola, and hyperbola.

Books Recommended

1. Allen, R.G.D (2006) : Mathematical Analysis for Economists, Chapter-II (Units 2.1, 2.2, 2.8), Chapter-III (Units 3.1, 3.6), Chapter – IV (Units 4.1, 4.7), Chapter VI (Units 6.1 – 6.8), Chapter VII, Chapter VIII (Unit 8.2), Chapter IX (Units 9.1 – 9.4), Macmillan Delhi.
2. Gurhard Tintner (1970) : Mathematics and Statistics for Economists Chapter – VI., Rinehart : New York
3. Loney, S.L. (2010) : Plane Trigonometry, Part – I, Chapter – I (Units I to 22), Part – II, Chapter V (Units 61, 65), Aitbs Publishers, India.

Additional references:

1. Arye, F. Jr. (1999) : First Year College Mathematics (Schaum’s Series).Mc Graw Hill, New York.

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APPLIED STATISTICS

SEMESTER – II

- Note:**
1. This course shall not be opted for along with courses in B.A. /B.Sc Mathematics and/ or B.A. / B.Sc. Statistics.
 - 2 The candidate opted for this course will not be eligible for admission to M.A./ M.Sc. Statistics.
 3. There is one paper with code 102AS in B.A./B.Sc. Semester-II having a total of 100 marks.
 4. 9 Lectures of 45 minutes each per week shall be allotted for the teaching.

Paper- 102AS: PROBABILITY

| | |
|----------------------------|------------------|
| Maximum Marks | : 100 |
| Theory | : 90 |
| Internal Assessment | : 10 |
| Time allowed | : 3 hours |

Objective:. This course will lay the foundation to probability theory of outcomes of real life random experiments through various Statistical distributions.

Notes:

1. There will be in all nine (9) questions, all of equal marks. The first question is compulsory and will be of short answer type covering the entire syllabus. Out of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each Unit.
2. Simple non-programmable calculators are allowed.
3. Statistical tables and log tables will be provided on request.

UNIT-I

Random experiments, sample space, events probability, Finite sample spaces, equally likely outcomes, conditional probability, Bayes theorem, independent events, random variables, discrete and continuous probability density functions.

UNIT –II

Expectation and variance of random variable.

Binomial, Poisson, geometric, hypergeometric, uniform, exponential and normal distribution

Books Prescribed

- | | | |
|---|---|---|
| 1. P.L.Meyer , (1971) | : | Introductory Probability and Statistical Applications, Addison Wesley, chapters 1, 2, 3, 4, 5, 8 and 9. |
| 2. Goon, A.M., Gupta, M.K. & Dasgupta,B (2005). | : | Fundamentals of Statistics, Vol. I. The world press private Ltd. |
| 3. Murray Spiegel, John Schiller & A. Srinivasan (2002) | : | Schaum's Easy outline of Probability and Statistics, Mc Graw Hill, New York. |

Additional References:

- | | | |
|---------------------------|---|--|
| 1. Sheldon M. Ross (2009) | : | Introduction to Probability Models, Academic Press: San Diego. |
|---------------------------|---|--|
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PHYSICS

B.Sc. (GENERAL) FIRST YEAR (1st and 2nd Semester) EXAMINATION, 2023-24

General Instructions for teachers, students and paper setters :

1. There will be three papers of theory and one laboratory (practical course). Each of the theory papers is allocated 25 marks including 3 (three) marks for the Internal assessment. **The Practical examination is of 50 marks including 5 (Five) marks for the Internal assessment and will be held along with the second semester examination.**
2. The number of lectures per week will be three for each theory paper and six for practicals.
3. The examination time for each theory paper as well as practical paper will be three hours.
4. Each theory paper will consist of **seven** questions comprising of three sections. First two sections will comprise of **three** questions from each of Units I and II of syllabus, and the third section will comprise of **one compulsory** question of **ten** short answer type parts covering whole syllabus. The question paper will be set for 44 marks - **All the questions in first and second sections will carry 9 (nine) marks each and the compulsory question will carry 8 marks.** Student will attempt two questions from each of the first two sections and any eight parts of the compulsory question. **After evaluation of the answer books out of 44 marks, the marks will be given out of 22 marks.**
5. The numerical problems/exercises in the question paper should be 25-30%.
6. Student will attempt two questions from each Unit (I-II) and any six parts of question seven.
7. The use of Non-programmable calculators will be allowed (paper setter should explicitly mention this in the question paper) in the examination centre but these will not be provided by the University/College. Mobile phones and pagers are not allowed in the examination hall.

Papers, marks and teaching hours allocation :

| | |
|---|------------------------|
| Paper A : Mechanics | Total Teaching hrs. 30 |
| Paper B : Vibrations, Waves and EM Theory | Total Teaching hrs. 30 |
| Paper C : Electricity and Magnetism | Total Teaching hrs. 30 |
| Physics Practicals | Total Teaching hrs. 45 |

* marks allotted for internal assessment.

PHYSICS

SEMESTER – I

Paper A: MECHANICS-I

(30 Hrs.)

UNIT-I

Cartesian and spherical polar co-ordinate systems, Two- and three-dimensional coordinate systems, area, volume, displacement, velocity, and acceleration in these systems, solid angle.

Centre of mass, linear momentum, angular momentum, torque, potential energy and kinetic energy of a system of particles.

Relationship of conservation laws of linear momentum, angular momentum and energy, and symmetries of space and time.

UNIT-II

Various forces in nature, relative strengths and spatial dependence,

Motion under force obeying inverse square law, equivalent one body problem.

Motion under central forces, equation of motion under central force, equation of orbit and turning points, Kepler's Laws.

Elastic collision in Lab. and C.M. systems, relationships of velocities, angles, and kinetic energies in these two systems, cross section of elastic scattering, Rutherford scattering.

Books Suggested :

Essential Readings :

1. Mechanics, H.S. Hans & S.P. Puri.
2. Mechanics, Berkeley, Vol. I, C. Kittle.

Further Readings :

1. *An Introduction to Machines*, Daniel Kleppner & Robert J. Kolenkow (TMH).
2. *Introduction of Classical Mechanics*, R.G. Takwale & P.S. Puranik (TMH, 2000).

Paper B: VIBRATIONS, WAVES & E.M. THEORY-I

(30 Hrs.)

UNIT-I

Simple harmonic motion, energy of a SHM, Compound Pendulum, Torsional Pendulum, Electrical Oscillations, Transverse Vibrations of a mass on a string, composition of two perpendicular SHM of same period and of period in ratio 1: 2. Decay of free vibrations due to damping, differential equation of motion, types of damping, determination of damping co-efficient; Logarithmic decrement, relaxation time and Q- Factor. Electromagnetic damping (Electrical oscillator).

UNIT-II

Differential equation for forced mechanical and electrical oscillators, Transient and steady state behaviour. Displacement and velocity variation with driving force frequency, variation of phase with frequency, resonance. Power supplied to an oscillator and its variation with frequency. Q-value and band width. Q-value as an amplification factor. Stiffness, coupled oscillators, Normal co-ordinates and normal modes of vibration, Inductance coupling of electrical oscillators.

Books Suggested :***Essential Readings :***

1. *Text Book of Vibrations and Waves* by S.P. Puri (Macmillan India Ltd.).
2. *Physics of Vibrations and Waves* by H.J. Pain, ELBS & John Wiley, London.

Further Readings :

1. *Vibrations and Waves* by A.P. French (Arnold Heinemann India, New Delhi).
2. *The Mathematics of Waves and Vibrations* by P.K. Ghosh (McMillan India).
3. *Waves and Oscillations* by N. Subrahmanayam & B. Lal (Vikas Pub., Delhi).

Paper-C : ELECTRICITY AND MAGNETISM-I

(30 Hrs.)

UNIT-I

Basic ideas of Vector Calculus, Gradient, Divergence, curl in Cartesian coordinates and their useful relations, physical significance and applications, Conservative field, Greens's theorem in a plane, Laplacian in Rectangular coordinates. Stoke's theorem, Gauss's divergence theorem, Coulomb's Law for point charges and continuous distribution of charges, electric field due to dipole, line charge, charged ring, circular disc and sheet of charge, Gauss's Law and its differential form.

UNIT-II

Work and potential difference, Potential difference as line integral of field, Electric potential due to dipole and quadrupole and its applications in Electrostatic field, Electric field as gradient of scalar potential, $\text{curl } \mathbf{E} = 0$. Calculation of \mathbf{E} due to a point charge and dipole from potential. Poisson and Laplace's equation, Concept of electrical images. Calculation of electric potential and field due to a point charge placed near an infinitely conducting sheet.

Polarisation of matter, atomic and molecular dipoles, induced dipole moment and atomic polarizability. Electric susceptibility and polarization vector. Relation $K = 1 + \chi$, Gauss's law for dielectrics. Displacement vector, $\text{Div. } \mathbf{D} = 0$, Energy stored in dielectric medium.

Books Suggested :***Essential Readings :***

1. *Electricity & Magnetism* by A.S. Mahajan & A.A. Rangwala (Tata McGraw Hill).
2. *Fundamentals of Electricity and Magnetism* by Arthur F. Kipp.
3. *Electricity and Magnetism, Berkeley Physics Course, Vol. II* by E.M. Purcell.
4. *Introduction to Classical Electrodynamics* by David Griffith, Prentice Hall.

Further Readings :

1. *Electricity & Magnetism*, 4th Edition, W.J. Duffin.
2. *EM Waves and Radiating Systems*, Edward C. Jordan and K. G. Balmain, Prentice Hall.

PHYSICS PRACTICALS

The activities given in the section “Analysis of Experimental Data” are compulsory for all the students in the First semester.

The students are required to perform all the Nine experiments from each of the Units I and Unit II. The Practical examination will be held along with the second semester examinations.

The aim of project work is to develop the scientific and technical temper in the students and as such it may consist of development of a laboratory experiment, fabrication of a device or electronic circuit etc. The student will prepare a project report of about 10 pages. Assessment of the project work will be done on the basis of effort put in the execution of the project, report prepared, and viva-voce.

General Guidelines for Physics Practical Examinations :

Total : 50 marks

- | | |
|---|----|
| 1. The distribution of marks is as follows : | |
| (i) One full experiment out of section–A requiring the student to take some data, analyse it and draw conclusions. (Candidates are expected to state their results with limits of error). | 20 |
| (ii) One exercise based on experiment or Computer Programming from the Unit assigned to the student for the semester | 7 |
| (iii) Viva-Voce and Record (Practical file) | 10 |
| (iv) Project | 8 |
| (v) Internal Assessment | 5 |

Note for Examiners :

- The marks scored under each head must be clearly written on the answer sheet.
- There will be one session of 3 hours duration. The paper will have two sections. Section-A will consist of 4 experiments from each of Unit I and Unit II, out of which an examinee will mark 3 experiments from either of units and one of these is to be allotted by the external examiner.
- Section–B will consist of exercises which will be set by the external examiner on the spot. The length of the exercises should be such that any of these could be completed in one hour.
- The examiner should take care that the experiment allotted to an examinee from section–A and exercise allotted from section–B are not directly related to each other.
- Number of candidates in a group for practical examination should not exceed **12**.
- In a single group, no experiment to be allotted to more than three examinees in the group.

Analysis of Experimental Data (Compulsory for all students in first semester):

Objectives :

- Knowledge of propagation of errors.
- Knowledge of significant figures, Determination of standard deviation and probable error and their use in interpretation of the experimental result.
- Familiarity with the method of least square fitting of experimental data to a curve.

LIST OF EXPERIMENTS :**UNIT-I****MECHANICS****I. Measurements :****Objectives :**

- (i) Measurements of time, length, thickness and curvature, pressure, humidity
- (ii) Concepts of least count, horizontal, vertical and angular alignments

Activities :

- (i) To measure internal/external diameter of a hollow cylinder using Vernier calipers
- (ii) To measure thickness of wire
- (iii) To measure curvature of a lens
- (iv) To measure pressure using Barometer
- (v) To measure humidity using dry and wet thermometer

II. Rotation :**Objectives :**

- (i) Study of rotational motion.
- (ii) Establishing relationship between different quantities.

Activities :

- (i) To study the dependence of moment of inertia on distribution of mass (by noting time periods of oscillations using objects of various geometrical shapes but of same mass).
- (ii) To establish relationship between torque and angular acceleration using fly wheel.

III. One-Dimensional Collisions :**Objectives :**

- (i) Conservation of linear momentum and kinetic energy in elastic collisions.
- (ii) Dependence of fraction of kinetic energy transferred on the masses of colliding bodies.
- (iii) Idea of coefficient of restitution.

Activities :

To determine energy transfer, coefficient of restitution and verify laws of conservation of linear momentum and kinetic energy in elastic collisions using one dimensional collisions of hanging spheres.

IV. Compound Pendulum :**Objectives :**

- (i) Idea of equivalent simple pendulum.
- (ii) Concepts of centre of suspension and oscillation.
- (iii) Dependence of time period on moment of Inertia .
- (iv) Radius of gyration.
- (v) Determination of g.

Activities :

- (i) Measure time period as a function of distance of centre of suspension (oscillation) from centre of mass, plot relevant graphs, determine radius of gyration and acceleration due to gravity.
- (ii) Find the value of g by Katers' or Bar pendulum.

V. Torsion Pendulum :**Objectives :**

- (i) Idea of torsional vibration, dependence of time period on M.O.I. and restoring torque.
- (ii) Modulus of rigidity.

Activity :

Measure time period of oscillation of a Maxwell needle and determine modulus of rigidity of the material of a given wire.

VI. Damped Oscillator :**Objectives :**

- (i) Study damped oscillations.
- (ii) Coefficient of damping, quality factor etc.

Activities :

To measure/obtain logarithmic decrement, coefficient of damping, relaxation time, and quality factor of a damped simple pendulum.

VII. Elasticity :**Objective :**

Knowledge of elastic constants and related quantities.

Activities :

- (i) Study of bending of beams and determination of Young's Modulus.
- (ii) Determination of Poisson's ratio for rubber/plastic.

VIII. Standing waves :**Objective :**

Standing waves on a string and in air.

Activities :

- (i) Melde's experiment.
- (ii) Kundt's tube.

IX. Viscosity :**Objective :**

Knowledge of viscosity of liquids.

Activity :

Determination of coefficient of viscosity of a given liquid by Stoke's method and study its temperature dependence.

Computer based activities : Elementary C language programs, flowcharts and their interpretation.

1. To print out all natural even/odd numbers from a given series of natural numbers.
2. Numerical solution of equations of motion.
3. To calculate first ten prime numbers.

UNIT-II

ELECTRICITY AND MAGNETISM

I. Objective :

Measurement of resistance, voltage, current and electric energy.

Activities :

- (i) To use a multimeter for measuring AC and DC voltage and resistance.
- (ii) Measurement of resistance of LDR - To study inverse-square law (concept of solid angle and inverse square law) using linear LDR and light source.
- (iii) Observations and measurements using an Electric energy meter. To find wattage of given bulb or heater.
- (iv) To study the efficiency of an electric kettle or heater element with varying input voltage.

II. Low Resistance Measurements :

Objectives :

- (i) Inadequacy of Wheatstone bridge to measure low resistances.
- (ii) Acquaintance with a method of measuring low resistances.

Activity :

To determine low resistance with Carey Fosters Bridge.

III. Magnetic Field :

Objectives :

- (i) Familiarity with the magnetic field produced by a solenoid.
- (ii) Dependence of solenoidal field on number of turns and current.
- (iii) Permeability of air.

Activities :

To study the magnetic field produced by a current carrying solenoid using a search coil and calculate permeability of air.

IV. Electromagnetic Induction :

Objective :

Verification of laws of electromagnetic induction.

Activity :

To study the induced e.m.f. as function of the velocity of the magnet.

V. Magnetism and current :**Objectives and Activities :**

Force on a conductor carrying current in a magnetic field.

VI. LCR Circuits :**Objective :**

Study of phase relationship between currents and voltages in ac circuits.

Activity :

Study of phase relationships using impedance triangle for LCR circuit and calculate impedance.

VII. Resonant Circuits :**Objective :**

Concepts of resonance and Q-value.

Activities :

- (i) Resonance in a series LCR circuits for different R-value and calculate Q-value.
- (ii) Resonance in a parallel LCR circuits for different R-value and calculate Q-value.
- (iii) To determine the dielectric constant of a solid by resonance method.

VIII. Capacitance :**Objectives :**

- (i) Measurement of capacitance, dielectric constant.
- (ii) Concept of time constant and time base circuit.
- (iii) Knowledge of a-c Bridges.

Activities :

- (i) Capacitance by flashing and quenching of a neon lamp.
- (ii) Measurement of capacitance, determination of permittivity of a medium, air and relative permittivity by De-Sauty's bridge.

IX. Self Inductance :**Objectives :**

- (i) Knowledge of a-c bridges.
- (ii) Concept of self-inductance.

Activities :

- (i) To determine L using Anderson Bridge.

Computer based activities: Elementary C language programs, flowchart and their interpretation.

1. To rearrange a list of numbers in ascending and descending orders.
2. To compile a frequency distribution and evaluate moments such as mean; standard deviation etc.
3. To evaluate sum of finite series and the area under a curve.

Texts and Reference Books :

1. *“B.Sc. Practical Physics by C.L. Arora, S.Chand & Co. (2014).*
2. *“A Laboratory Manual of Physics for Undergraduate Classes”* by D.P. Khandelwal.
3. *“Programming with C, Schaum series”* by Byron Gottfried & Jitender Chhabra

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PHYSICS

SEMESTER-II

Paper A : MECHANICS – II

UNIT-I

Rigid Body motion; Rotational motion, principal moments and Axes, Euler's equations, precession and elementary gyroscope.

Galilean transformations and Invariance, Transformation equations for inertial frames inclined to each other, Non-Inertial frames. Fictitious forces in a rotating frames of reference, Centrifugal and Coriolis forces due to rotation of earth, Foucault's pendulum.

Concept of stationary universal frame of reference and ether, Michelson-Morley experiment and its results.

UNIT-II

Postulates of special theory of relativity, Lorentz transformations, Kinematical consequences of Lorentz transformations – length contraction and time dilation, Twin paradox, Transformation of velocities, Simultaneity of relativity, Velocity of light in moving fluid, Relativistic Doppler effect.

Variation of mass with velocity, mass-energy equivalence, rest mass in an inelastic collision, relativistic momentum & energy, their transformation, concepts of Minkowski space, four vector formulation.

Books Suggested :

Essential Readings :

1. Mechanics, Berkeley, Vol. I, C. Kittel.
2. Mechanics, H.S. Hans & S.P. Puri.

Further Readings :

1. *Mechanics & Relativity (3rd Edition)*, Vidwan Singh Soni (PHI Learning, New Delhi, 2013)
2. *An Introduction to Machines*, Daniel Kleppner & Robert J. Kolenkow (TMH).
3. *Introduction of Classical Mechanics*, R.G. Takwale & P.S. Puranik (TMH, 2000).
4. *Basic Concepts of Relativity*, R.H. Good (East-West Press, New Delhi, 1974).

Paper B: VIBRATIONS, WAVES & E.M. THEORY-II

(30 Hrs.)

UNIT-I

Waves in physical media, Wave equation and its solution, Types of waves, particle velocity, acceleration and energy in progressive waves. Longitudinal waves on a rod.

Transverse waves on a string, characteristic impedance of a string, Waves in absorbing media.

Reflection and Transmission of transverse waves on a string at discontinuity, Reflection and transmission of energy.

Reflection and transmission of longitudinal waves at a boundary.

Standing wave ratio, Impedance matching, Energy of vibrating string. Wave and group velocity.

UNIT-II

Physical interpretation of Maxwell's equations, E.M. waves and wave equation in a medium having finite permeability, permittivity and conductivity. Energy flow due to EM wave - Poynting vector, Impedance of a dielectric to EM waves. EM waves in a conducting medium and skin depth. Impedance and Refractive index of a dielectric and a conductor.

Reflection and transmission of EM waves at a boundary of two dielectric media for normal and oblique incidence.

Reflection of EM waves from the surface of a conductor at normal incidence.

Essential Readings :**Books Suggested :**

1. *Text Book of Vibrations and Waves* by S.P. Puri (Macmillan India Ltd.).
2. *Physics of Vibrations and Waves* by H.J. Pain, ELBS & John Wiley, London.
3. *EM Waves and Radiating Systems* by Edward C. Jordan and K.G. Balmain, Prentice Hall.

Further Readings :

1. *Vibrations and Waves* by A.P. French (Arnold Heinemann India, New Delhi).
2. *The Mathematics of Waves and Vibrations* by P.K. Ghosh (McMillan India).
3. *Waves and Oscillations* by N. Subrahmanyan & B. Lal (Vikas Pub., Delhi).

Paper-C: ELECTRICITY AND MAGNETISM-II**(30 Hrs.)****UNIT-I**

Current and current density, equation of continuity. Microscopic form of Ohm's Law ($\mathbf{J} = \sigma\mathbf{E}$) and conductivity. Failure of Ohm's Law. Invariance of charge. \mathbf{E} in different frames of reference. Field of a point charge moving with constant velocity. Force between parallel currents.

Behaviour of various substances in magnetic field. Definition of \mathbf{M} and \mathbf{H} and their relation to free and bound currents. Permeability and susceptibility and their interrelationship. B-H curve and energy loss in hysteresis, Langevin theory of diamagnetism.

UNIT-II

Lorentz's force. Definition of \mathbf{B} . Biot Savart's Law and its application to long straight wire, circular current loop and solenoid. Ampere's Circuital law and its application. Divergence and curl of \mathbf{B} . Hall effect, expression and co-efficient. Vector potential, Definition and derivation, current density— definition, its use in calculation of change in magnetic field at a current sheet. Energy stored in magnetic field, Faraday's Law of EM induction, Displacement current, Mutual inductance and reciprocity theorem. Self inductance for solenoid.

Books Suggested :**Essential Readings :**

1. *Electricity & Magnetism*, A.S. Mahajan & A.A. Rangwala (Tata McGraw Hill).
2. *Fundamentals of Electricity and Magnetism* by Arthur F. Kipp.
3. *Electricity and Magnetism, Berkeley Physics Course, Vol. II* by E.M. Purcell.
4. *Introduction to Classical Electrodynamics* by David Griffith, Prentice Hall.

Further Readings :

1. *Electricity & Magnetism*, 4th Edition, W.J. Duffin.
2. *EM Waves and Radiating Systems*, Edward C. Jordan and K. G. Balmain, Prentice Hall.

PHYSICS PRACTICALS

The Practical examination will be held along with the second semester examinations. General Guidelines for Physics Practical Examinations and syllabus is given in syllabus for Semester I.

CHEMISTRY SEMESTER – I

Scheme of Teaching and Examination

| <i>Paper</i> | <i>Course</i> | <i>Teaching Hrs.</i> | | <i>Max. Marks</i> |
|----------------|-----------------------|----------------------|------------------------|----------------------------|
| I | Inorganic Chemistry-A | 30 | 3 periods per week | 22 + 3 internal assessment |
| II | Organic Chemistry-A | 30 | 3 periods per week | 22 + 3 internal assessment |
| III | Physical Chemistry-A | 30 | 3 periods per week | 22 + 3 internal assessment |
| IV | Laboratory Practicals | | 6 periods per week | 22 + 3 internal assessment |
| Total : | | | 15 periods/week | 100 |

Paper 1 – INORGANIC CHEMISTRY-A

Time: 3 Hrs.
Max. Marks: 22+3
30 Hrs. (2 Hrs/week)
3 Periods/week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester System) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I

(8 Hrs.)

Atomic Structure

Idea of de Broglie matter waves, Heisenberg uncertainty principle, atomic orbitals, Schrodinger wave equation, significance of Ψ and Ψ^2 , quantum numbers, radial and angular wave functions and probability distribution curves, shapes of *s*, *p*, *d* orbitals. Aufbau and Pauli exclusion principles, Hund's multiplicity rule. Electronic configurations of the elements and ions.

UNIT-II

(7 Hrs.)

Periodic Properties

Position of elements in the periodic table; effective nuclear charge and its Calculations Atomic and ionic radii, ionization energy, electron affinity and electronegativity – definition, methods of determination or evaluation, trends in periodic table and applications in predicting and explaining the chemical behaviour.

UNIT-III**(7 Hrs.)****Chemistry of Noble Gases and s-Block Elements**

Chemical properties of the noble gases, chemistry of xenon, structure and bonding in xenon compounds. Comparative study, diagonal relationships, salient features of hydrides, solvation and complexation tendencies including their function in biosystems, an introduction to alkyls and aryls.

UNIT-IV**(8 Hrs.)****Chemical Bonding-I**

Covalent Bond – Valence bond theory and its limitations, directional characteristics of covalent bond, various types of hybridization and shapes of simple inorganic molecules and ions. BeF_2 , BF_3 , CH_4 , PF_5 , SF_6 , IF_7 , SnCl_2 , XeF_4 , BF_4^- , PF_6^- , SnCl_6^{2-} . Valence shell electron pair repulsion (VSEPR) theory to NH_3 , H_3O^+ , SF_4 , ClF_3 , ICl_2^- and H_2O . MO theory, homonuclear (elements and ions of 1st and 2nd row), and heteronuclear (BO, CN, CO^+ , NO^+ , CO, CN^-), diatomic molecules. Percentage ionic character from dipole moment and electronegativity difference.

Instructions for paper setters and candidates:

- i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.*
- ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.*
- iii. Compulsory question carries six marks and remaining all questions carry four marks each.*

Books suggested

1. Cotton, F.A., Wilkinson, G., Gaus, P.L., Basic Inorganic Chemistry; 2nd edition, Pubs: John Wiley and Sons, 1995.
2. Lee, J.D., Concise Inorganic Chemistry; 4th edition, Pubs: Chapman & Hall Ltd., 1991.
3. Shriver, D.E., Atkins, P.W., Inorganic Chemistry; 4th edition, Pubs: Oxford University Press, 2006.
4. Douglas, B., Medaniel, D., Atenander, J., Concepts and Models of Inorganic Chemistry; 3rd edition, Pubs: John Wiley and Sons Inc., 1994,
5. Porterfeild, W.W., Wesky, A., Inorganic Chemistry; Pubs: Addison-Wesky Publishing Company, 1984.
6. Miessler, G.L., Tarr, D.A., Inorganic Chemistry; 3rd edition, Pubs: Pearson Education Inc., 2004,
7. Jolly, W.L., Modern Inorganic Chemistry; 2nd edition, Pubs: Tata McGraw-Hill Publishing Company Limited, 1991.
8. Purcell, K.F., Kotz, J.C., Inorganic Chemistry; Pubs: W.B.Saunders Company, 1977.
9. Puri, B.R., Sharma, L.R., Kalia, K.K., Principles of Inorganic Chemistry; 30th edition, Pubs: Milestones Publisher, 2006-07.

Paper-II: ORGANIC CHEMISTRY-A

Time: 3 Hrs.
Max. Marks: 22+3
30 Hrs. (2 Hrs/week)
3 Periods/week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester System) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I (8 Hrs.)**Structure and Bonding:**

Hybridization, bond lengths and bond angles, bond energy, localized and delocalized chemical bond, Van der Waals interactions, resonance, hyperconjugation, aromaticity, inductive and field effects, hydrogen bonding.

Mechanism of Organic Reactions:

Curved arrow notation, drawing electron movements with arrows, half-headed and double-headed arrows, homolytic and heterolytic bond breaking. Types of reagents-electrophiles and nucleophiles. Types of organic reactions. Energy considerations.

Reactive intermediates-Carbocations, carbanions, free radicals, carbenes, arynes and nitrenes (with examples). Assigning formal charges on intermediates and other ionic species.

Methods of determination of reaction mechanism (product analysis, intermediates, isotope effects, kinetic and stereochemical studies).

UNIT –II (7 Hrs.)**Alkanes and Cycloalkanes:**

Isomerism in alkanes, sources, methods of formation (with special reference to Wurtz reaction, Kolbe reaction, Corey-House reaction and decarboxylation of carboxylic acids), physical properties and chemical reactions of alkanes

Mechanism of free radical halogenation of alkanes: Orientation, reactivity and selectivity. Cycloalkanes – nomenclature, methods of formation, chemical reactions, Baeyer's strain theory and its limitation. Ring strain in small rings (cyclopropane and cyclobutane), theory of strainless rings. The case of cyclopropane ring: banana bonds

UNIT-III (8 Hrs.)**Stereochemistry of Organic Compounds I:**

Concept of isomerism, Types of isomerism.

Optical isomerism – Elements of symmetry, molecular chirality, enantiomers, stereogenic center, optical activity, properties of enantiomers, chiral and achiral molecules with two stereogenic centers, diastereomers, threo and erythrodiastereomers, meso compounds, resolution of enantiomers, inversion, retention and racemization.

Relative and absolute configuration, sequence rules, D & L and R & S systems of nomenclature.

UNIT-IV

(7 Hrs.)

Stereochemistry of Organic Compounds II:

Geometric isomerism: Determination of configuration of geometric isomers. E & Z system of nomenclature, geometric isomerism in oximes and alicyclic compounds.

Conformational isomerism – Conformational analysis of ethane and n-butane; conformations of cyclohexane, axial and equatorial bonds, conformation of mono and disubstituted cyclohexane derivatives. Newman projection and Sawhorse formulae, Fischer and flying wedge formulae.

Difference between configuration and conformation.

Instructions for paper setters and candidates:

- i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.*
- ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.*
- iii. Compulsory question carries six marks and remaining all questions carry four marks each.*

Books suggested

1. Morrison, R.T., Boyd, R.N., Organic Chemistry; 6th edition, Pubs: Prentice-Hall, 1992.
2. Solomons, T.W., Fryhle, C.B., Organic Chemistry; 9th edition, Pubs: Wiley India, 2007.
3. Wade Jr., L.G., Singh, M.S., Organic Chemistry; 6th edition, Pubs: Pearson education, 2008.
4. Mukherji, S.M., Singh, S.P., Kapoor, R.P., Organic Chemistry; Pubs: New Age International, 1985.
5. Carey, F.A., Sundberg, R.J., Advanced Organic Chemistry Part B: Reactions and Synthesis; 5th edition, Pubs: Springer, 2007.

Paper-III: PHYSICAL CHEMISTRY-A

Time: 3 Hrs.
Max. Marks: 22+3
30 Hrs. (2 Hrs/week)
3 Periods/week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Physical Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester System) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance may be given to requisite intellectual and laboratory skills.

UNIT-I (8 Hrs.)**Mathematical Concepts and Evaluation of Analytical Data:**

Logarithmic relations, curve sketching, linear graphs and calculation of slopes, differentiation and integration of functions like e^x , x^n , $\sin x$, $\log x$; maxima and minima, partial differentiation and reciprocity relations.

Terms of mean and median, precision and accuracy in chemical analysis, determining accuracy of methods, improving accuracy of analysis, data treatment for series involving relatively few measurements, linear least squares curve fitting, types of errors, standard deviation.

UNIT-II (7 Hrs.)**Gaseous States:**

Postulates of kinetic theory of gases, deviation from ideal behavior, Van der Waal's equation of state.

Critical Phenomena: PV isotherms of real gases, continuity of states, the isotherms of Van der Waal's equation, relationship between critical constants and Van der Waal's constants, the law of corresponding states, reduced equation of state.

Molecular Velocities: Root mean square, average and most probable velocities. Qualitative discussion of the Maxwell's distribution of molecular velocities, collision number, mean free path and collision diameter. Liquification of gases (based on Joule-Thomson effect).

UNIT-III (8 Hrs.)**Chemical Kinetics-I**

Chemical kinetics and its scope, rate of a reaction, factors influencing the rate of a reaction- concentration, temperature, pressure, solvent, light, catalyst. Concentration dependence of rates, mathematical characteristics of simple chemical reactions – zero order, first order, second order, pseudo order, half life and mean life. Determination of the order of reaction – differential method, method of integration, method of half life period and isolation method.

Radioactive decay as a first order phenomenon.

UNIT-IV**(7 Hrs.)****Chemical Kinetics-II**

Theories of Chemical Kinetics: Effect of temperature on rate of reaction, Arrhenius equation, concept of activation energy.

Simple collision theory based on hard sphere model, transition state theory (equilibrium hypothesis). Expression for the rate constant based on equilibrium constant and thermodynamic aspects.

Catalysis and general characteristics of catalytic reactions, Homogeneous catalysis, acid-base catalysis and enzyme catalysis including their mechanisms, MichaelisMenten equation for enzyme catalysis and its mechanism.

Instructions for paper setters and candidates:

- i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.*
- ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.*
- iii. Compulsory question carries six marks and remaining all questions carry four marks each.*

Books suggested

1. Atkins, P., Paula, J.de, Atkins Physical Chemistry; 8th edition, Pubs: Oxford University Press, 2008.
2. Puri, B.R., Sharma, L.R., Pathania, M.S., Principles of Physical Chemistry; 43rd edition, Pubs: Vishal Publishing Co., 2008.
3. Barrow, G.M., Physical Chemistry; 6th edition, Pubs: McGraw Hill Inc, 1996.
4. Rao, C.N.R., University General Chemistry; Pubs: Macmillan India, 1985.
5. Berry, R.S., Rice, S.A., Ross, J., Physical Chemistry; 2nd edition, Pubs: Oxford University Press, 2000.
6. Albert, R.A., Silbey, R.J., Physical Chemistry; 1st edition, Pubs: John Wiley & Sons Inc., 1992.
7. Dogra, S.K., Dogra, S., Physical Chemistry Through Problems; Pubs:Wiley Eastern Limited, 1991.
8. Levine, I.N., Physical Chemistry; 5th edition, Pubs: Tata McGraw Hill Publishing Co. Ltd., 2002.
9. Moore, W. J., Basic Physical Chemistry; Pubs: Prentice Hall of India Pvt. Ltd, 1983.
10. Metz, C.R., Theory and Problems of Physical Chemistry; Schaum's outline series, 2nd edition, Pubs: McGraw-Hall Book company, 1989.

Paper-IV: LABORATORY PRACTICALS**Max. Marks: 22+3
6 Periods/week****INORGANIC CHEMISTRY****(a) QUALITATIVE ANALYSIS:**

Semimicro Analysis, cation analysis, separation and identification of ions from groups I, II, III, IV, V and VI. Anion analysis (4 ions).

Instruction to Examiners: Four ions with no interference (anions such as PO_4^{3-} , BO_3^{3-} and similar anions like Cl^- , Br^- , I^- etc. and cations from the same group) may not be given.

(b) QUANTITATIVE ANALYSIS:

Volumetric titrations involving acid-base, KMnO_4 and $\text{K}_2\text{Cr}_2\text{O}_7$.

There are three experiments - one involving acid-base titrations, one involving KMnO_4 and one involving $\text{K}_2\text{Cr}_2\text{O}_7$.

1. Determination of strength of Na_2CO_3 solution by titrating it against a standard solution of HCl .
2. Determination of molarity of KMnO_4 solution by titrating it against a standard solution of Oxalic acid.
3. Standardise the given $\text{K}_2\text{Cr}_2\text{O}_7$ solution by titrating it against a standard solution of Mohr's Salt.

General Instruction to the Examiners:

Note: Practical examination will be of four hours duration & shall consist of the following questions:

Q.No. I. Qualitative Analysis : 10 marks

Q.No. II. Quantitative Analysis : 06 marks

Q.No. III. Viva-Voce :03 marks

Ask three questions (1 marks each) related to chemistry practicals. :03 marks

Q.No. IV. Note Book

Books Suggested (Laboratory Courses)

1. Svehla, Vogel's Qualitative Inorganic Analysis (revised); 7th edition Pubs: Orient Longman, 1996.
2. Bassett, J., Denney, R.C., Jeffery, G.H., Mendham, J., Vogel's Textbook of Quantitative Inorganic Analysis (revised); 4th edition, 1978.
3. Palmer, W.G., Experimental Inorganic Chemistry; 1st edition, Pubs: Cambridge, 1954.
4. Brauer, Handbook of Preparative Inorganic Chemistry; 2nd edition, Pubs: Academic Press, 1963, Vol. I, & 1965, Vol. II.
5. Audrieth, L.F., Inorganic Synthesis; Pubs: McGraw Hill, 1950, Vol. 3rd; E.G. Rochow, 1960 Vol. VI; J. Kleinberg, 1963, Vol. 7; S.Y. Tyree, 1967, Vol.9; E.L. Muetterties, 1967, Vol.10; W.L. Jolly 1986, Vol 11; R.W. Parry 1970, Vol. 12; F.A. Cotton 1972, Vol. 13; A.G. Mac Diarmid, 1977, Vol. 17.
6. Bansal, R.K., Laboratory Manual of Organic chemistry; 3rd edition, Pubs: Wiley Eastern Limited, 1994.

CHEMISTRY
SEMESTER –II

Scheme of Teaching and Examination

| <i>Paper</i> | <i>Course</i> | <i>Teaching Hrs.</i> | | <i>Max. Marks</i> |
|----------------|-----------------------|------------------------|--------------------|----------------------------|
| V | Inorganic Chemistry-B | 30 | 3 periods per week | 22 + 3 internal assessment |
| VI | Organic Chemistry-B | 30 | 3 periods per week | 22 + 3 internal assessment |
| VII | Physical Chemistry-B | 30 | 3 periods per week | 22 + 3 internal assessment |
| VIII | Laboratory Practicals | | 6 periods per week | 22 + 3 internal assessment |
| Total : | | 15 periods/week | | 100 |

Paper V – INORGANIC CHEMISTRY –B

Time: 3 Hrs.
Max. Marks: 22+3
30 Hrs. (2 Hrs/week)
3 Periods/week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester System) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I (7 Hrs.)**Chemical Bonding-II**

Ionic Solids – Concept of close packing., Ionic structures, (NaCl type, Zinc blende, Wurtzite, CaF₂ and antifluorite), radius ratio rule and coordination number, limitation of radius ratio rule, lattice defects, semiconductors.

UNIT-II (8 Hrs.)**Chemical Bonding-III**

Lattice energy and Born-Haber cycle, solvation energy and solubility of ionic solids, polarizing power and polarisability of ions, Fajan's rule. Metallic bond-free electron, valence bond and band theories. Weak Interactions – Hydrogen bonding, Van der Waals forces.

UNIT-III (7 Hrs.)***p*-Block Elements-I**

Comparative study (including diagonal relationship) of groups 13-14 elements, compounds like hydrides, oxides, oxyacids and halides of groups 13-14, hydrides of boron-diborane and higher boranes, borazine, borohydrides, fullerenes, carbides, fluorocarbons.

UNIT-IV (8 Hrs.)***p*-Block Elements-II**

Comparative study of groups 15-17 elements, compounds like hydrides, oxides, oxyacids and halides of groups 15-17, silicates (structural principle), tetrasulphurtetranitride, basic properties of halogens, interhalogens and polyhalides.

Instructions for paper setters and candidates:

- i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.*
- ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.*
- iii. Compulsory question carries six marks and remaining all questions carry four marks each.*

Books suggested

1. Cotton, F.A., Wilkinson, G., Gaus, P.L., Basic Inorganic Chemistry; 2nd edition, Pubs: John Wiley and Sons, 1995.
2. Lee, J.D., Concise Inorganic Chemistry; 4th edition, Pubs: Chapman & Hall Ltd., 1991.
3. Shriver, D.E., Atkins, P.W., Inorganic Chemistry; 4th edition, Pubs: Oxford University Press, 2006.
4. Douglas, B., Medaniel, D., Atenander, J., Concepts and Models of Inorganic Chemistry; 3rd edition, Pubs: John Wiley and Sons Inc., 1994,
5. Porterfeild, W.W., Wesky, A., Inorganic Chemistry; Pubs: Addison-Wesky Publishing Company, 1984.
6. Miessler, G.L., Tarr, D.A., Inorganic Chemistry; 3rd edition, Pubs: Pearson Education Inc., 2004,
7. Jolly, W.L., Modern Inorganic Chemistry; 2nd edition, Pubs: Tata McGraw-Hill Publishing Company Limited, 1991.
8. Purcell, K.F., Kotz, J.C., Inorganic Chemistry; Pubs: W.B.Saunders Company, 1977.
9. Puri, B.R., Sharma, L.R., Kalia, K.K., Principles of Inorganic Chemistry; 30th edition, Pubs: Milestones Publisher, 2006-07.

Paper-VI: ORGANIC CHEMISTRY-B

Time: 3 Hrs.
Max. Marks: 22+3
30 Hrs. (2 Hrs/week)
3 Periods/week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester System) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I**(8 Hrs.)****Alkenes, Cycloalkenes**

Nomenclature of alkenes, methods of formation, mechanisms of dehydration of alcohols and dehydrohalogenation of alkyl halides, regioselectivity in alcohol dehydration. The Saytzeff's Rule, Hofmann elimination, physical properties and relative stabilities of alkenes.

Chemical reactions of alkenes – mechanisms involved in hydrogenation, electrophilic and free radical additions, Markownikoff's rule, hydroboration – oxidation, oxymercuration-reduction. Epoxidation, ozonolysis, hydration, hydroxylation and oxidation with KMnO_4 . Polymerization of alkenes. Substitution at the allylic and vinylic positions of alkenes. Industrial applications of ethylene and propene.

UNIT-II**(7 Hrs.)****Dienes and Alkynes**

Methods of formation, conformation and chemical reactions of cycloalkenes.

Nomenclature and classification of dienes : Isolated, conjugated and cumulated dienes. Structure of allenes and butadiene, methods of formation, polymerization. Chemical reactions – 1,2 and 1,4 additions, Diels-Alder reaction.

Nomenclature, structure and bonding in alkynes. Methods of formation. Chemical reactions of alkynes, acidity of alkynes. Mechanism of electrophilic and nucleophilic addition reactions, hydroboration-oxidation, metal-ammonia reductions, oxidation and polymerization.

UNIT-III**(8 Hrs.)****Arenes and Aromaticity:**

Nomenclature of benzene derivatives. The aryl group, Aromatic nucleus and side chain, Structure of benzene : Molecular formula and Kekule structure. Stability and carbon-carbon bond lengths of benzene, resonance structure, MO picture.

Aromaticity: The Huckel rule, aromatic ions.

Aromatic electrophilic substitution – General pattern of the mechanism, role of σ and π – complexes. Mechanism of nitration, halogenation, sulphonation, mercuration and Friedel-Crafts reaction. Energy profile diagrams. Activating and deactivating substituents, orientation and ortho/para ratio. Side chain reactions of benzene derivatives. Methods of formation and chemical reactions of alkylbenzenes, alkynyl benzenes and biphenyl.

UNIT-IV

(7 Hrs.)

Alkyl and Aryl Halides

Nomenclature and classes of alkyl halides, methods of formation, chemical reactions. Mechanisms of nucleophilic substitution reactions of alkyl halides, S_N2 and S_N1 reactions with energy profile diagrams.

Polyhalogen compounds : chloroform, carbon tetrachloride.

Methods of formation of aryl halides, nuclear and side chain reactions. The addition-elimination and the elimination-addition mechanisms of nucleophilic aromatic substitution reactions.

Relative reactivities of alkyl halides vs. allyl, vinyl and aryl halides.

Instructions for paper setters and candidates:

- i. *Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.*
- ii. *The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.*
- iii. *Compulsory question carries six marks and remaining all questions carry four marks each.*

Books suggested

1. Morrison, R.T., Boyd, R.N., Organic Chemistry; 6th edition, Pubs: Prentice-Hall, 1992.
2. Solomons, T.W., Fryhle, C.B., Organic Chemistry; 9th edition, Pubs: Wiley India, 2007.
3. Wade Jr., L.G., Singh, M.S., Organic Chemistry; 6th edition, Pubs: Pearson education, 2008.
4. Mukherji, S.M., Singh, S.P., Kapoor, R.P., Organic Chemistry; Pubs: New Age International, 1985.
5. Carey, F.A., Sundberg, R.J., Advanced Organic Chemistry Part B: Reactions and Synthesis; 5th edition, Pubs: Springer, 2007.

Paper-VII: PHYSICAL CHEMISTRY-B

Time: 3 Hrs.
Max. Marks: 22+3
30Hrs.
(2 Hrs/week)
3 Periods/week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Physical Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester System) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance may be given to requisite intellectual and laboratory skills.

UNIT-I**(8 Hrs.)****Thermodynamics-I:**

Definition of Thermodynamic Terms: System, surroundings etc. Types of systems, intensive and extensive properties. State and path functions and their differentials. Thermodynamic process. Concept of heat and work.

First Law of Thermodynamics: Statement, definition of internal energy and enthalpy, Heat capacity, heat capacities at constant volume and pressure and their relationship. Joule's Law-Joule-Thomson coefficient and inversion temperature. Calculations of w , q , dU & dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process.

UNIT-II**(7 Hrs.)****Thermochemistry:**

Standard state, standard enthalpy of formation-Hess's Law of constant Heat Summation and its applications. Heat of reaction at constant pressure and at constant volume. Enthalpy of neutralization. Bond dissociation energy and its calculation from thermo-chemical data, temperature dependence of enthalpy. Kirchoff's equation.

UNIT- III**(7 Hrs.)****Colloidal State:**

Definition of colloids, classification of colloids.

Solids in liquids (sols): Properties –kinetic, optical and electrical; stability of colloids, protective action, Hardy-Schulze rules, gold number.

Liquids in liquids (emulsions) : Types of emulsions, preparation. Emulsifier.

Liquids in solids (gels): Classification, preparation and properties, inhibition, general applications of colloids.

UNIT-IV**(8 Hrs.)****Solutions, Dilute Solutions and Colligative Properties:**

Ideal and non-ideal solutions, methods of expressing concentrations of solutions, activity and activity coefficient.

Dilute solution, colligative properties, Raoult's law, relative lowering of vapour pressure, molecular weight determination. Osmosis, law of osmotic pressure and its measurement, determination of molecular weight from osmotic pressure. Elevation of boiling point and depression of freezing point, Thermodynamic derivation of relation between molecular weight and elevation in boiling point and depression of freezing point. Experimental methods for determining various colligative properties.

Abnormal molar mass, degree of dissociation and association of solutes.

Instructions for paper setters and candidates:

- i. Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering whole syllabi.*
- ii. The students are required to attempt **FIVE** questions in all, **ONE** question from each unit and the Compulsory question.*
- iii. Compulsory question carries six marks and remaining all questions carry four marks each.*

Books suggested

1. Atkins, P., Paula, J.de, Atkins Physical Chemistry; 8th edition, Pubs: Oxford University Press, 2008.
2. Puri, B.R., Sharma, L.R., Pathania, M.S., Principles of Physical Chemistry; 43rd edition, Pubs: Vishal Publishing Co., 2008.
3. Barrow, G.M., Physical Chemistry; 6th edition, Pubs: McGraw Hill Inc, 1996.
4. Rao, C.N.R., University General Chemistry; Pubs: Macmillan India, 1985.
5. Berry, R.S., Rice, S.A., Ross, J., Physical Chemistry; 2nd edition, Pubs: Oxford University Press, 2000.
6. Albert, R.A., Silbey, R.J., Physical Chemistry; 1st edition, Pubs: John Wiley & Sons Inc., 1992.
7. Dogra, S.K., Dogra, S., Physical Chemistry Through Problems; Pubs:Wiley Eastern Limited, 1991.
8. Levine, I.N., Physical Chemistry; 5th edition, Pubs: Tata McGraw Hill Publishing Co. Ltd., 2002.
9. Moore, W. J., Basic Physical Chemistry; Pubs: Prentice Hall of India Pvt. Ltd, 1983.
10. Metz, C.R., Theory and Problems of Physical Chemistry; Schaum's outline series, 2nd edition, Pubs: McGraw-Hall Book company, 1989.

Paper-VIII: LABORATORY PRACTICALS**Max. Marks: 22+3
6 Periods/week****ORGANIC CHEMISTRY AND GREEN CHEMISTRY PRACTICALS**

Crystallization and determination of melting points

Concept of induction of crystallization

1. Phthalic acid from hot water (using fluted filter paper and stemless funnel).
2. Acetanilide from boiling water.
3. Benzoic acid from water

PHYSICAL CHEMISTRY

1. Refractive indices
Determine the Refractive indices of given liquids (water, acetone, methanol, ethylacetate, cyclohexane) by Abbe's refractometer & calculate their specific refractions.
2. Viscosity
To determine the viscosity of Brine Solution (20%), n-Butyl alcohol, cyclohexane
3. Surface Tension
To determine the surface tension of Brine Solution (20%), n-Butyl alcohol, cyclohexane

General Instruction to the Examiners:

Note: Practical examination will be of four hours duration & shall consist of the following questions:

- | | |
|-----------------------------|------------|
| Q.No. I. Physical Chemistry | : 10 marks |
| Q.No. II. Organic Chemistry | : 06 marks |
| Q.No. III. Viva-Voce | : 03 marks |

Ask three questions (1 marks each) related to chemistry practicals.

- | | |
|---------------------|------------|
| Q.No. IV. Note Book | : 03 marks |
|---------------------|------------|

Books Suggested (Laboratory Courses)

1. Khosla, B.D., Garg, V.C., Gulati, A., Senior Practical Physical Chemistry; 11th edition Pubs: R. Chand & Co., New Delhi, 2002.
2. Das, R.C., Behra, B., Experimental Physical Chemistry; Pubs: Tata McGraw Hill Publishing Co. Ltd., 1998.
3. Levitt, B.P., Findlays Practical Physical Chemistry; 8th edition, Pubs: Longman Group Ltd., London & New York, 1978.

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BOTANY**SEMESTER-I**

| First Semester | | Time | Theory | Int Assess. | Max Marks |
|--|--------------------|--------|--------|----------------|--------------|
| Theory Paper- A | Plant Diversity-I | 3 hrs. | 36 | 04 | 40 |
| Theory Paper-B | Cell Biology | 3 hrs. | 36 | 04 | 40 |
| One practical pertaining to entire syllabus included in both theory papers | | 3 hrs. | 18 | 02 | 20 |
| Second Semester | | | | | |
| Theory Paper –A | Plant Diversity-II | 3hrs | 36 | 04 | 40 |
| Theory Paper-B | Genetics | 3hrs | 36 | 04 | 40 |
| One practical pertaining to entire syllabus included in both theory papers | | 3hrs. | 18 | 02 | 20 |
| Total | | | | | 200 |

- Note:**
1. The number of teaching hours for theory and practical per semester shall be 60 hrs. and 100 hrs. respectively.
 2. There will be two theory papers (A&B) in each semester. Each paper will consist of nine questions. Question No.1 will be compulsory and will consist of 12 parts (one mark each) comprising 6 MCQ and the rest 6 parts will be of fill-in the blanks covering the entire syllabus in both the theory papers A&B. The remaining 8 questions in papers A&B shall include two questions from each unit. Candidates shall be required to attempt one question from each Unit. Question No. 1 will carry 12 marks and the rest of 8 questions will be of 6 marks each.

Paper-A: PLANT DIVERSITY-I

Objective: The basic objective of this paper is to make students aware about the diversity in various life forms of plant kingdom. It gives an idea about the most simple group of plants. A systematic study of algae and fungi included in this group would familiarize students not only with structural differentiation but also provide an insight about the heterotrophic and autotrophic modes of nutrition in the plant kingdom. This paper in fact forms the basis of any advance study in Botany.

Teaching Methodology: Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

UNIT – I

Bacteria: Salient features, types and cell structure.

Algae: General Characters; systematic position, structure and life history of *Oscillatoria* (Cyanophyceae) *Volvox*, *Cladophora* (Chlorophyceae); *Vaucheria* (Xanthophyceae).

UNIT-II

Systematic position, structure and life history of *Dictyota* (Phaeophyceae); *Batrachospermum* (Rhodophyceae) and economic importance of algae.

UNIT-III

Fungi: General characters; systematic position, structure and life history of *Albugo* (White rust of crucifers: *Albugo candida*), *Rhizopus* and *Saccharomyces*.

UNIT-IV

Systematic position, structure and life history of *Agaricus*, *Ustilago* (Loose smut of wheat: *Ustilago tritici*), *Puccinia* (Black rust of wheat: *Puccinia graminis tritici*), *Colletotrichum* (Red rot of sugarcane: *Colletotrichum falcatum*); general account of Lichens and their economic importance.

Suggested Readings :

1. Alexopoulos, C. J. Mims, C. W. and Blackwell, M. 1996. Introductory Mycology. John Wiley and Sons, Inc. USA.
2. Dube, H.C. 1990. An Introduction to Fungi. Vikas Publishing House Pvt. Ltd., Delhi.
3. Goyal, J. P. Dhand, Neelam and Saini, Aruna. 2011. Foundations of Botany. Trueman Book Company Jalandhar.
4. Pandey, B.P. 2009. Botany for Degree Students. S. Chand & Co. Ltd., New Delhi.
5. Sharma, O.P. 1992. Text Book of Thallophytes, McMillan India Ltd., New Delhi.
6. Sharma, P.D. 1991. The Fungi. Rastogi & Co., Meerut.
7. Smith, G.M. 1971. Cryptogamic Botany. Vol. 1, Algae & Fungi, Tata McGraw Hill Publishing Co. New Delhi.
8. Singh, V. Pandey, P.C. and Jain, D.K. 2012. Text Book of Botany, Diversity of Microbes and Cryptogams. Rastogi Publications, Meerut & New Delhi.
9. Srivastava, H.N. 2013. Pradeep's Botany Vol. I (Diversity of Microbes and Cryptogams), Pradeep Publications, Jalandhar (India).
10. Vishishta, B. R. 1999. Botany for Degree Students. Algae. S. Chand and Company Ltd., New Delhi.
11. Vishishta, B. R. 1999. Botany for Degree Students. Fungi. S. Chand and Company Ltd., New Delhi.

Paper-B: Cell Biology

Objective: This paper deals with the basic structural unit of life i.e. Cell & its organelles. It provides an insight into structural and cytological basis of functional differentiation in plants. Coupled with the study of prokaryotic and eukaryotic diversity of life forms included in Paper-A, the course material of this paper gives an idea about cellular, molecular and biochemical basis of such differentiation.

Teaching Methodology: Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

UNIT – I

Ultrastructure and functions of a typical plant cell and its organelles: Nucleus, Mitochondrion, Plastids, Ribosome, Endoplasmic reticulum, Golgi apparatus, Lysosomes; Structure and functions of cell wall and plasma membrane: fluid mosaic model only.

UNIT-II

Physical structure of chromosome; Giant chromosomes: Polytene and Lampbrush chromosomes; Chromosomal alterations (deletion, duplication, inversion, translocation) and their importance; Variations in chromosome number, (aneuploidy and polyploidy) introduction and their importance.

UNIT-III

Cell divisions: Mitosis and Meiosis in plants and their significance, Synaptonemal complex, DNA: Structure (Watson and Crick model), Nucleosome, types of DNA and role of DNA, Replication of DNA.

UNIT-IV

Structure and concept of gene: One gene-one enzyme hypothesis; Genetic Code: Characteristics, exceptions, Wobble hypothesis; RNA: Structure and types; Transcription and translation; Regulation of gene expression in prokaryotes (Lac operon and Tryptophan operon) and in eukaryotes (a brief account).

Suggested Readings :

1. Alberts, B., Gray, D. Lewis, J. Raff, M., Roberts, K. and Watson, I.D. 1999. Molecular Biology of Cell. Garland Publishing Co., Inc., New York, USA.
2. Bhatia, K.N. and Dhand Neelam. 2013. Cell Biology and Genetics. Trueman Book Company, Jalandhar.
3. Gupta, P.K. 1999. A Text-book of Cell and Molecular Biology. Rastogi Publications, Meerut, India.
4. Kleinsmith, L.J. and Kish, V.M. 1995. Principles of Cell and Molecular Biology (2nd edition). Harper Collins College Publishers, New York, USA.
5. Lodish, H., Berk, A., Zipursky, S.L. Matsudaira, P., Baltimor, D. and Darnell, J. 2000. Molecular Cell Biology. W.H. Freeman & Co., New York, USA.
6. Srivastava, H. N. 2013. Pradeep's Botany Vol. II Cell Biology and Genetics, Pradeep Publications, Jalandhar (India).
7. Wolfe, S.L. 1993. Molecular and Cell Biology. Wadsworth Publishing Co., California, USA.

Suggested laboratory exercises for First Semester :

1. Study of morphology of various genera included in algae and fungi.
2. Study of Crustose, Foliose and Fructicose types of Lichen thalli.
3. Histopathological study of White rust of crucifers, Loose smut of wheat, Black rust of wheat and Red rot of sugarcane.
4. To study cell structure from onion leaf peels; demonstration of staining and mounting method.
5. Preparation of temporary slides to show different stages of mitosis from root tips of *Allium cepa* and *A. sativum*.
6. Preparation of temporary slides to show different stages of meiosis from floral buds of *Allium/Brassica*.

Guidelines for Botany Practical Examination:

| | | |
|---------------------|---|-------|
| Max. Marks | : | 20 |
| Practical | : | 18 |
| Internal Assessment | : | 02 |
| Time | : | 3 hrs |

- | | | |
|----|--|----|
| 1. | Identify and write illustrated morphological note on specimens A and B. | 05 |
| 2. | Prepare a squash mount of specimen C to show the stage of cell division visible in the slide and show it to the examiner. Identify it giving at least one reason. Draw the stage of cell division and show it to the examiner. | 05 |
| 3. | Identify and the slides D and E giving at least two reasons for each. | 04 |
| 1. | Practical Note-book | 02 |
| 2. | Viva-voce | 02 |

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BOTANY

SEMESTER – II

Paper-A: Plant Diversity-II

Objective: The basic objective of this paper is to make the students aware about the diversity in various life forms of plant kingdom. It gives an idea about how different life forms have evolved from simpler to complex ones. A sequential study ranging from Bryophytes (the amphibians of plant kingdom) and then to Pteridophytes -the first vascular land plants, would enable students to have a broad prospective of evolutionary trends in plant kingdom.

Teaching Methodology: Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

UNIT – I

Bryophyta: General characters; systematic position, structure, reproduction and life cycle of *Marchantia* and *Riccia* (Hepaticopsida) excluding developmental stages.

UNIT-II

Systematic position, structure, reproduction and life cycle of *Anthoceros* (Anthocerotopsida) and *Funaria* (Bryopsida) excluding developmental stages.

UNIT-III

Pteridophyta: General characters; systematic position, structure, reproduction and life cycle of *Rhynia* (Psilophytopsida) and *Selaginella* (Lycopsida) excluding developmental stages.

UNIT-IV

Systematic position, structure, reproduction and life cycle of *Equisetum* (Sphenopsida) and *Pteris* (Pteropsida) excluding developmental stages.

Suggested Readings

1. Goyal, J. P. Dhand, Neelam and Saini, Aruna 2011. Foundations of Botany. Trueman Book Company Jalandhar.
2. Pandey, B.P. 2009. Botany for Degree Students. S. Chand & Co. Ltd., New Delhi
3. Puri, P. 1980. Bryophyta. Atma Ram & Sons, Delhi.
4. Sharma, O.P. 1990. Text Book of Pteridophyta, McGraw Hill Publishing Co., New Delhi.
5. Singh, V. Pandey, P.C. and Jain, D.K. 2012. Text Book of Botany, Diversity of Microbes and Cryptogams. Rastogi Publications, Meerut & New Delhi.
6. Smith, G.M. 1971. Cryptogamic Botany. Vol. II, Bryophytes and Pteridophytes, Tata McGraw Hill Publishing Co., New Delhi.
7. Srivastava, H.N. 2013. Pradeep's Botany Vol. I (Diversity of Microbes and Cryptogams), Pradeep Publications, Jalandhar (India).
8. Vishishta, B. R. 1999. Botany for Degree Students. Bryophyta. S. Chand and Company Ltd., New Delhi.

Paper-B : Genetics

Objective: This paper deals with various aspects of hereditary trends observed in successive generations. It provides an insight into genetic basis of such evolutionary trends in plants. Coupled with the study of variations in life forms included in Paper A, the course material of Paper B provides an idea about the important role that genetics plays in structural and functional differentiation of plants.

Teaching Methodology: Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

UNIT-I

Mendelism : Mendel's experiments and results, Mendel's Laws of Dominance, Segregation and Independent assortment; Linkage: complete and incomplete linkage, linkage groups, linkage maps, importance of linkage, cytological interpretation of Mendelism.

UNIT-II

Non-allelic Gene Interactions: Dominant and recessive epistasis, supplementary genes, complementary genes, quantitative or polygenic inheritance, duplicate genes. Allelic gene interactions: Incomplete dominance, codominance, multiple alleles, pleiotropic genes.

UNIT-III

Chromosome theory of heredity, parallelism between chromosome and Mendelian factors, Sex linked inheritance; Characteristics and examples (Haemophilia, colour-blindness); Cytoplasmic or extranuclear inheritance: mitochondrial and plastid DNA; plastid inheritance in *Mirabilis*, mitochondrial inheritance in Yeast.

UNIT-IV

Genetic variations: Continuous and Discontinuous; Mutations: characteristics, types, importance, factors affecting mutations; Mutagens: Physical and chemical, mechanism of gene mutations; DNA damage and repair: Types of damage (Single base change and structural distortion), types of repair system in prokaryotes and eukaryotes.

Suggested Readings :

1. Atherly, A.G., Girton, J.R. and McDonald, J.F. 1999. The Science of Genetics. Saunders College Publishing, Fort Worth, USA.
2. Bhatia, K. N. and Dhand Neelam 2013.. Cell Biology and Genetics. Trueman Book Company, Jalandhar.
3. Gupta, P.K. 1999. Genetics. Rastogi Publications, Meerut, India.
4. Russel, P.J. 1998. Genetics. The Benjamin/Cummings. Publishing Co. Inc., USA.
5. Snustad, D.P. and Simmons, M.J. 2000. Principles of Genetics, John Wiley & Sons, Inc., USA.
6. Srivastava, H. N. 2013. Pradeep's Botany Vol. II Cell Biology and Genetics, Pradeep Publications, Jalandhar (India).
7. Stent, G.S. 1986. Molecular Genetics. CBS Publications.

Suggested laboratory exercises for Second Semester:

1. Study of morphology of various genera mentioned in Bryophyta and Pteridophyta.
2. I. Preparation of permanent stained slides of :

| | | | |
|-------------------|----------------|--------------------|--|
| <i>Marchantia</i> | (V.S. Thallus) | <i>Selaginella</i> | (T.S. Stem) |
| <i>Riccia</i> | (V.S. Thallus) | <i>Equisetum</i> | (T.S. Aerial stem passing through internode) |
| <i>Anthoceros</i> | (V.S. Thallus) | <i>Pteris</i> | (T.S. Petiole and leaflet) |
| <i>Funaria</i> | (T.S. Stem) | | |

II. Study through permanent slides:

Marchantia

- i) L.S. Antheridiophore
- ii) L.S. Archegoniophore
- iii) L.S. Mature sporogonium

Riccia

L.S. Mature sporogonium

Anthoceros

- i) T.S. Thallus passing through antheridia
- ii) T.S. Thallus passing through archegonia
- iii) L.S. Mature sporogonium.

Funaria

- i) L.S. Male receptacle
- ii) L.S. Female receptacle
- iii) L.S. Capsule
- iv) Primary protonema

Selaginella

L.S. Sporangiferous spike

Equisetum

- i) L.S. Strobilus
- ii) T.S. Strobilus

Pteris

Mature prothallus

3. Problems related to Mendalism and gene interactions.

Guidelines for Botany Practical Examination:

| | | |
|---------------------|---|-------|
| Max. Marks | : | 20 |
| Practical | : | 18 |
| Internal Assessment | : | 02 |
| Time | : | 3 hrs |

1. Cut T.S., stain and make a permanent mount of specimen A. Identify, draw its labelled diagram and show the slide to the examiner. 06
2. Problem related to Mendalism or gene interaction (to be announced by the examiner). 04
3. Identify the slides B and C giving at least two reasons for each. 04
4. *Viva-voce* & Practical Note-book. 2+2= 04

ZOOLOGY

FIRST SEMESTER

| | Time | Theory Assessment | Internal | Marks |
|--|--------|----------------------|----------|-------|
| Paper-I: Biodiversity & Cell Biology – I | 3 hrs. | 36 | 4 | 40 |
| Paper-II: Biodiversity & Cell Biology – II | 3 hrs. | 36 | 4 | 40 |
| Practical: One paper covering entire syllabus of both the papers. | 4 hrs. | 18 | 2 | 20 |
| Total marks: 100 | | | | ----- |

SECOND SEMESTER

| | Time | Theory | Internal Assessment | Marks |
|--|--------|--------|------------------------|-------|
| Paper-I: Biodiversity & Ecology - I | 3 hrs. | 36 | 4 | 40 |
| Paper-II: Biodiversity & Ecology - II | 3 hrs. | 36 | 4 | 40 |
| Practical: One paper covering entire syllabus of both the papers. | 4 hrs. | 18 | 2 | 20 |
| Total marks: 100 | | | | ----- |

Note: The number of hours for Theory and Practical per week shall be 6 and 4 hours, respectively.

OBJECTIVES OF THE COURSE

The syllabus pertaining to B.Sc. (General) Semester-I and Semester-II in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges.

The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance may be given to skill-oriented components.

The course contents are also given due stress for excursion/field trips to Zoological Parks, Sea-shores, Hill Stations, Museums, Fossil Parks and Apiary/godowns for better academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshop/seminars from time to time for updating the teachers.

ZOOLOGY

FIRST SEMESTER

PAPER-I : BIODIVERSITY & CELL BIOLOGY-I (ZOO. 01)

| | |
|---------------------|----------|
| Max. Marks | 40 marks |
| Theory | 36 marks |
| Internal Assessment | 4 marks |
| Time | 3 Hrs. |

Note : Nine questions are to be set. Question No.1 is compulsory consisting of short answer type questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, Five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.

UNIT – I

Detailed study of the following protozoan types:

Amoeba, Entamoeba., Paramecium, Plasmodium

Classification up to orders with ecological notes and economic importance (if any) of the following:

Entamoeba, Trypanosoma, Giardia, Noctiluca, Eimeria, Opalina, Vorticella, Balantidium and Nyctotherus.

UNIT – II

Detailed study of the following animal types:

Parazoa (Porifera) : *Sycon (Scypha)*

Cnidaria (Coelenterata) : *Obelia*

Classification upto orders with brief ecological note and economic importance (if any) of the following:

Parazoa (Porifera) : *Grantia, Euplectella, Hyalonema and Spongilla*

Cnidaria (Coelenterata) : *Hydra, Sertularia, Plumularia, Obelia, Tubularia, Bougainvillea, Porpita, Velella, Physalia, Rhizostoma, Millipora, Aurelia, Alcyonium, Tubipora, Zoanthus, Metridium, Madrepora, Favia, Fungia and Astrangia.*

UNIT – III

Methods in Cell Biology : Principles and applications of light (simple, compound & phase contrast) and electron (SEM &TEM) microscopes. Fixation & fixatives, staining techniques (simple and double staining).

Organization of Cell : Concept of Prokaryotic and Eukaryotic cell, extra nuclear and nuclear organization of cell.

Plasma membrane : Structure with particular references to Fluid Mosaic Model, Osmosis, active and passive transport, endocytosis and exocytosis.

UNIT – IV

| | | |
|-----------------------|---|--|
| Endoplasmic reticulum | : | Structure, types, associated enzymes and functions. |
| Mitochondria | : | Structure, mitochondrial enzymes and the role of mitochondria in respiration. Mitochondrial DNA. |
| Golgi complex | : | Structure, associated enzymes and functions. |

Books Recommended:

1. Essential Cell Biology – Alberts, Garland Publishers, New York, 3rd edition, 1997.
2. The Cell : A molecular approach – G. M. Cooper, Robert & Hausman Sinauer Associates Inc., 4th edition, 2007.
3. Molecular Cell Biology – Harvey Lodish, Arnold Berk, Chris A. Kaiser, Monty Krieger, Mathew P. Scott, Anthony Bretscher, Hiddle Ploegh, W.H. Freeman, 6th edition, 2007.
4. Cell & Molecular Biology – G. Karp. John Wiley & Sons, 2016.
5. Cell & Molecular Biology - De Robertis, E.D.P. & DeRobertis, E.M.F., W.B. Saunders Co., Philadelphia, 8th edition, 1995.
6. Cell Biology - Powar, C.B., Himalaya Publishing House, Bombay, 1999.
7. Invertebrates Vol.I-VI- L.H. Hyman, Mcgraw Hill, 1955.
8. Invertebrate Zoology – E.L. Jorden, S. Chand, 2001.
9. Modern Text Book of Zoology : Invertebrate – R.L. Kotpal, Rastogi Publications, 10th edition, 2009.
10. A Manual of Practical Zoology : Invertebrate – P.S. Verma by S. Chand, 2005.
11. Practical Zoology Invertebrate – S.S. Lal – Rastogi Publications, 2009.
12. Text Book of Zoology – Dhami & Dhami, Pardeep Publications, 1983.
13. Zoology for Degree Students – V.K. Aggarwal, S. Chand Publications, 2011.

PAPER-II:BIODIVERSITY & CELL BIOLOGY – II(ZOO.102)

| | | |
|---------------------|---|----------|
| Max.Marks | : | 40 marks |
| Theory | : | 36 marks |
| Internal Assessment | : | 4 marks |
| Time | : | 3 Hrs. |

UNIT – I**Detailed study of the following animal types:**

| | | |
|-----------------|---|------------------------------------|
| Platyhelminthes | : | <i>Fasciola, Taenia</i> |
| Aschelminthes | : | <i>Ascaris</i> |
| | | Parasitic adaptations in Helminths |

Classification upto orders with brief ecological note and economic importance (if any) of the following:

| | | |
|-----------------|---|---|
| Platyhelminthes | : | <i>Dugesia, Schistosoma and Echinococcus.</i> |
| Aschelminthes | : | <i>Ascaris, Oxyuris, Wuchereria.</i> |

UNIT – II**Detailed study of the following animal type:**

| | | |
|----------|---|------------------|
| Annelida | : | <i>Pheretima</i> |
|----------|---|------------------|

Classification upto orders with brief ecological note and economic importance (if any) of the following:

| | | |
|----------|---|--|
| Annelida | : | <i>Nereis, Polynoe, Eunice, Arenicola, Aphrodite, Amphitrite, Chaetopterus, Tubifex and Pontobdella.</i> |
|----------|---|--|

UNIT – III

| | | |
|------------|---|--|
| Lysosomes | : | Lysosomal enzymes, Polymorphism and functions. |
| Ribosomes | : | Types of ribosomes, their structure and functions. |
| Centrosome | : | Structure and functions. |

UNIT-IV

| | | |
|---|---|--|
| Nucleus | : | Structure and functions of nuclear membrane, nucleolus and chromosomes. Euchromatin & Heterochromatin |
| An elementary idea of cell transformation in Cancer | : | Introduction, difference between normal and Cancer cells, types of cancer, basic idea of transformation (Properties of Cancer cells, Origin of Cancer) |
| An elementary idea of cellular basis of immunity | : | Cellular & Humoral immunity. Elementary idea of cells & organs of immune system . |

Books Recommended :

1. Essential Cell Biology – Alberts, Garland Publishers, New York, 3rd edition, 1997.
2. The Cell : A Molecular approach – G.M. Cooper, Robert & Hausman Sinauer Associates Inc., 4th edition, 2007.
3. Molecular Cell Biology – Harvey Lodish, Arnold Berk, Chris A. Kaiser, Monty Krieger, Mathew P. Scott. Anthony Bretscher, Hiddle Ploegh, W.H. Freeman, 6th edition, 2007.
4. Cell & Molecular Biology – G. Karp. John Wiley & Sons, 2001.
5. Cell & Molecular Biology - De Robertis, E.D.P. & De Robertis, E.M.F., W.B. Saiunders Co., Philadelphia, 8th edition, 1995.
6. Cell Biology - Powar, C.B., Himalaya Publishing House, Bombay, 1999.
7. Invertebrates Vol.I-VI- L.H. Hyman, Mcgraw Hill, 1955.
8. Invertebrate Zoology – E.L. Jorden, S. Chand, 2001.
9. Modern Text Book of Zoology : Invertebrate – R.L. Kotpal, Rastogi Publications, 10th edition, 2009.
10. A Manual of Practical Zoology : Invertebrate – P.S. Verma by S. Chand, 2005.
11. Practical Zoology Invertebrate – S.S. Lal – Rastogi Publications, 2009.
12. Text Book of Zoology – Dhama & Dhama, Pardeep Publications, 1983.
13. Zoology for Degree Students – V.K. Aggarwal, S. Chand Publications, 2011.

PRACTICALS : Practical based on Theory Papers ZOO-101 & ZOO-102 (ZOO-151)

1. Examination of cultures of *Euglena* and *Paramecium*.
2. Classification upto orders with ecological notes and economic importance, if any, of the following animals :
 Slides : *Amoeba*, *Euglena*, *Trypanosoma*, *Noctiluca*, *Eimeria*, *Monocystis*, *Paramoecium* (Binary fission and conjugation), *Opalina*, *Vorticella*, *Balantidium*, *Nyctotherus* & *Polystomella*.
 Parazoa (Porifera) : Specimens: *Sycon*, *Grantia*, *Euplectella*, *Hyalonema*, *Spongilla*, *Euspongia*.
 Cnidaria (Coelenterata) (a) Specimens : *Porpita*, *Veleva*, *Physalia*, *Aurelia*, *Rhizostoma*, *Metridium*, *Millipora*, *Alcyonium*, *Tubipora*, *Zoanthus*, *Madrepora*, *Favia*, *Fungia* and *Astrangia*.
 (b) Slides : *Hydra* (W.M.) *Hydra* with buds. *Obelia* (colony and medusa). *Sertularia*, *Plumularia*, *Tubularia*, *Bougainvillea* and *Aurelia* larva.
 Aschelminthes : *Ascaris* (male and female), *Trichinella*, *Ancylostoma*.
 Platyhelminthes (a) Specimens : *Dugesia*, *Fasciola*, *Taenia*, *Echinococcus*.
 (b) Slides : Miracidium, Sporocyst, Redia, Cercaria of *Fasciola*, Scolex and Proglottids of *Taenia* (mature and gravid).
 Annelida : *Pheretima*, *Nereis*, *Heteronereis*, *Polynoe*, *Eunice*, *Aphrodite*, *Chaetopterus*, *Arenicola*, *Tubifex* and *Pontobdella*.

3. Study of the following permanent stained preparations :
 - L.S. and T.S. *Sycon*, gemmules, spicules and spongin fibres of a sponge.
 - T.S. *Hydra* (Testis and ovary region).
 - T.S. *Pheretima* (Pharyngeal and typhlosolar regions); setae, septal nephridia, spermathecae and ovary of *Pheretima*
 - T.S. *Fasciola* (Different regions).
 - T.S. *Ascaris* (Male & female).
4. Preparation of the following slides :
Temporary preparation of *Paramecium*, *Euglena* and vorticella.
5. Demonstration of dissection of earthworm through video clipping/models/charts etc.
6. Make a preparation of sex-chromatin from buccal smear.
7. Introduction to the following through photographs/lab. visits :
 - Gel electrophoresis, TEM & SEM, ultrastructure of cell organelles.
8. Study of slide of striated muscle fibre and Animal cell.

Note : . Candidates will be required to submit their original note books containing record of their laboratory work (Drawing etc.) initialed and dated by their teachers at the time of practical examination.

Guidelines for the conduct of Practical Examination

| | | |
|---------------------|---|----------|
| Max. Marks | : | 20 |
| Practical Exam. | : | 18 marks |
| Internal Assessment | : | 2 marks |
| Time | : | 3 hours |

1. Draw a labelled sketch of the any given system and show to examiner/Spot any four parts of anatomy in given models/charts. 2 marks
2. Make a temporary mount of the material "A". Identify and draw its labelled sketch and show it to the examiner. 1 marks
3. Identify the slides (B-C) and give two important reasons for each identification. 3 marks
4. Identify and classify the specimens (D-G) up to orders. Write a short note on the habitat, special features, feeding habit and economic importance. 6 marks
5. Identify the cell organelle through photograph and give two important reasons for Identification/Buccal smear/striated muscle fibre/paper chromatography. 2 marks
6. Viva voce 2 marks
7. Practical records and chart 2 marks

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ZOOLOGY

SECOND SEMESTER

Paper- I : BIODIVERSITY & ECOLOGY - I (ZOO-201)

| | |
|---------------------|------------|
| Max. Marks | : 40 |
| Theory Exam. | : 36 marks |
| Internal Assessment | : 4 marks |
| Time | : 3 hours |

Note : Nine questions are to be set. Question No.1 is compulsory consisting of short answer type Questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, Five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.

UNIT -I

Detailed study of the following animal types :

Arthropoda : *Periplaneta*
Social organizations in insects (honey bee and termite).

Classification upto orders with brief ecological note and economic importance (if any) of the following:

Arthropoda : *Apis*, *Lepisma* (Silver Fish), *Schistocerca* (Locust), *Poecilocus* (Ak Grasshopper) *Gryllus* (Cricket), *Mantis* (Preying Mantis), *Cicada*, *Forficula* (Earwig), *Cimex*, *Scarabaeus* (Dung beetle), *Agrian* (Dragon fly), *Odontotermes* (Termite queen), *Cimex* (bed bug), *Cicindela* (Tiger beetle), *Polistes* (Wasp), *Bombyx* (Silk moth).

UNIT -II

Detailed study of the following animal types :

Arthropoda : Prawn (*Palaemon*)
Life cycle of *Anopheles* and *Culex*.

Classification upto orders with brief ecological note and economic importance (if any) of the following:

Peripatus, Prawn, Lobster, *Cancer* (Crab), *Sacculina*, *Eupagurus* (Hermit crab), *Lepas*, *Balanus*, *Julus* (Millipede), *Scolopendra* (Centipede), *Palamnaeus* (Scorpion), *Aranea* (Spider) and *Limulus* (King crab).

UNIT – III

| | | |
|--------------------|---|---|
| Ecology | : | Subdivisions and Scope of ecology. |
| Ecosystem | : | Components, ecological energetics, food web, introduction to major ecosystems of the world. |
| Ecological factors | : | Temperature, light and soil as ecological factors. |

UNIT – IV

| | | |
|------------------------|---|--|
| Nutrients | : | Biogeochemical cycles & concept of limiting factors. |
| Ecological Adaptations | : | Morphological, physiological and behavioural adaptations in animals in different habitats. |
| Population | : | Characteristics and regulation of population. |

Books Recommended:

1. Invertebrates Vol.I-VI- L.H. Hyman, Mcgraw Hill, 1955.
2. Invertebrate Zoology – E.L. Jorden, S. Chand, 2001.
3. Modern Text Book of Zoology : Invertebrate – R.L. Kotpal, Rastogi Publications, 10th edition, 2009.
4. A Manual of Practical Zoology : Invertebrate – P.S. Verma by S. Chand, 2005.
5. Practical Zoology Invertebrate – S.S. Lal – Rastogi Publications, 2009.
6. Text Book of Zoology – Dhami & Dhami, Pardeep Publications, 1983.
7. Zoology for Degree Students – V.K. Aggarwal, S. Chand Publications, 2011.
8. Fundamentals of Ecology – E.P. Odum, Akash Publications, Indian Reprint, 2008.
9. Concepts of Ecology – E.J. Kormondy, Prentice – Hall of India, 1999.
10. Zoogeography – P.J. Darlington, John Willy & Sons Inc., 1957.
11. Ecology & Environment – P.D. Sharma by Rastogi Publications, 2007.
12. Adaptation – Bruce Wallace & Adrian, Prentice – Hall, 1961.
13. Introduction to Animal Ecology & Environmental Biology – H.R. Singh, Vishal Publications, 2001.

Paper-II BIODIVERSITY & ECOLOGY - II (ZOO-202)

| | |
|---------------------|------------|
| Max. Marks | : 40 |
| Theory Exam. | : 36 marks |
| Internal Assessment | : 4 marks |
| Time | : 3 hours |

Note : Nine questions are to be set. Question No.1 is compulsory consisting of short answer type questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, Five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.

UNIT – I**Detailed study of the following animal type:**

Mollusca : *Pila*

Classification up to orders with ecological notes and economic importance (if any)

Mollusca : *Chiton, Anodonta, Mytilus, Ostrea, Cardium, Pholas, Solen*(Razor Fish), *Pecten, Haliotis, Patella, Aplysia, Doris, Limax, Loligo, Sepia, Octopus, Nautilus and Dentalium*

UNIT – II**Detailed study of the following animal types:**

Echinodermata : *Asterias*, Echinoderm Larvae.
Hemichordata : *Balanoglossus*, External characters and affinities.

Classification up to orders with ecological notes and economic importance (if any)

Echinodermata : *Echinus, Cucumaria, Ophiothrix, Antedon and Asterias*.
Hemichordata : *Balanoglossus*.

UNIT – III

Inter and intra ecological relationships : Competition, predation, parasitism, commensalism, ammensalism & mutualism

Biotic community : Characteristics, ecological succession, ecological niche.

UNIT – IV

Natural resources : Renewable and nonrenewable natural resources and their conservations.

Environmental Degradation : Causes, impact and control of environmental pollution. (Air, Water, Land, Noise)

Wildlife conservation : National Park and Sanctuary, IUCN Red list, projects (tiger and crocodile), Wildlife (Protection) Act, 1972 (Hunting and Trade)

Books Recommended:

1. Invertebrates Vol.I-VI- L.H. Hyman, Mcgraw Hill, 1955.
2. Invertebrate Zoology – E.L. Jorden, S. Chand, 2001.
3. Modern Text Book of Zoology : Invertebrate – R.L. Kotpal, Rastogi Publications, 10th edition, 2009.
4. A Manual of Practical Zoology : Invertebrate – P.S. Verma by S. Chand, 2005.
5. Practical Zoology Invertebrate – S.S. Lal – Rastogi Publications, 2009.
6. Text Book of Zoology – Dhami & Dhami, Pardeep Publications, 1983.
7. Zoology for Degree Students – V.K. Aggarwal, S. Chand Publications, 2011.
8. Fundamentals of Ecology – E.P. Odum, Akash Publications, Indian Reprint, 2008.
9. Concepts of Ecology – E.J. Kormondy, Prentice – Hall of India, 1999.
10. Zoogeography – P.J. Darlington, John Willy & Sons Inc., 1957.
11. Ecology & Environment – P.D. Sharma by Rastogi Publications, 2007.
12. Adaptation – Bruce Wallace & Adrian, Prentice – Hall, 1961.
13. Introduction to Animal Ecology & Environmental Biology – H.R. Singh, Vishal Publications, 2001.

PRACTICALS : Practical based on Theory Papers ZOO-201 & ZOO-202 (ZOO 152)

1. Classification upto orders with ecological notes and economic importance, if any, of the following animals :

| | | |
|---------------|---|---|
| Arthropoda | : | <i>Peripatus, Palaemon, Lobster, Cancer</i> (Crab), <i>Sacculina, Eupagurus</i> (Hermit crab), <i>Lepas, Balanus, Apis, Lepisma</i> (Silver Fish), <i>Schistocerca</i> (Locust), <i>Poeciloceris</i> (Ak Grasshopper), <i>Gryllus</i> (Cricket), <i>Mantis</i> (Praying Mantis) <i>Cicada, Forficula</i> (Earwig), <i>Scarabaeus</i> (Dung beetle), <i>Agrian</i> (Dragon fly), <i>Odontotermes</i> (Termite queen), <i>Cimex</i> (bed bug), <i>Cicindela</i> (Tiger beetle), <i>Polistes</i> (Wasp), <i>Bombyx</i> (Silk moth), <i>Julus</i> (Millipede), <i>Scolopendra</i> (Centipede), <i>Palamnaeus</i> (Scorpion), <i>Aranea</i> (Spider) and <i>Limulus</i> (King crab). |
| Mollusca | : | <i>Anodonta, Mytilus, Ostrea, Cardium, Pholas, Solen</i> (Razorfish) <i>Pecten, Haliotis, Patella, Aplysia, Doris, Limax, Loligo, Sepia, Octopus, Nautilus</i> shell (Complete and T.S.), <i>Chiton</i> and <i>Dentalium</i> . |
| Echinodermata | : | <i>Asterias, Echinus, Ophiothrix</i> and <i>Antedon Cucumaria</i> |
| Hemichordata | : | <i>Balanoglossus</i> . |
2. Study of the following permanent stained preparations :
 - Trachea, mouth parts of *Periplaneta*
 - Radula and osphradium of *Pila*.
 - T.S. Star fish (Arm).

3. Demonstration of dissection of the following animals through video clippings/charts/models:
Periplaneta : Digestive and nervous systems; mouth parts and trachea.
Pila : Pallial complex, digestive and nervous systems, Radula.
4. Study of animal adaptations with the help of specimens, charts and models.
5. Study of Zoogeographical regions and their fauna.
6. Study of biotic components of an ecosystem.
7. Study of different types of nests in birds.
8. Study & preparation of zoogeographical charts/maps.

Note: Candidates will be required to submit their original note books containing record of their laboratory work (Drawing etc.) initialed and dated by their teachers at the time of practical examination.

Guidelines for the conduct of Practical Examination

| | | |
|----|--|------------|
| | Max. Marks | : 20 |
| | Practical Exam. | : 18 marks |
| | Internal Assessment | : 2 marks |
| | Time | : 3 hours |
| 1. | Draw a labeled diagram of any given system of an animal and explain it to the examiner Sketch and demonstrate it to the examiner. | 2 marks |
| 2. | Identify the slides (A-C) and give two important reasons for each identification. | 3 marks |
| 3. | Identify and classify the specimens (D-G) up to orders. Write a short note on the habitat, special features, feeding habit and economic importance. | 6 marks |
| 4. | Identify the type of adaptation/type of nest/biotic components with a short note. | 1 marks |
| 5. | Mark Zoogeographical region on the given physical map along with endemic fauna and climate. | 2 marks |
| 6. | Viva voce | 2 marks |
| 7. | Practical record, charts/maps and project report of excursion to a place of zoological interest | 2 marks |

BIO-CHEMISTRY**Semester I****INSTRUCTIONS FOR PAPER SETTER AND STUDENTS:**

1. Total No. of questions will be nine. All questions carry equal marks.
2. Q. No. 1 will be compulsory. It will consist of short questions covering the entire syllabus
3. Besides question Number 1, there will be 4 sections of 2 questions each.
4. All other questions may contain 2-3 parts.
5. Questions should be uniformly spread over the entire syllabus.
6. Students will be required to attempt 5 questions in all including Q. No. 1 and at least one question from each of the 4 sections.

Paper-A: Carbohydrates and Lipids**Marks: 45+5****Objective: To learn about biomolecules, their structure and functional significance.****SECTION-I****(Lectures: 10)**

Introduction to biochemistry and its scope. Water: physical properties, as a biological solvent and structure of water, dissociation of water. pH and pOH, buffer solution. Henderson Hassel Balch equation, acid-base indicators, buffers and physiologically important buffers, dialysis and osmosis.

SECTION-II**(Lectures: 10)**

Definition and classification of carbohydrates. Fischer and Haworth structures of carbohydrates. Stereoisomerism and mutarotation. Anomeric forms of monosaccharides. Derivatives of monosaccharides (glycosides, deoxy sugars, amino sugars and other derivatives of biological importance). Oligosaccharides of biological importance (structure of maltose, lactose, sucrose, cellobiose, trehalose, and raffinose). Characteristic reactions of monosaccharides: reactions with hydrazine, hydrogen cyanide, hydroxylamine; reduction and oxidation of sugars; Homo- and hetero-polysaccharides (structures of amylose, amylopectin, starch, inulin, dextrin, glycogen, cellulose, chitin). Hetero-polysaccharides as components of connective tissue. Polysaccharides of bacterial cell wall,

SECTION-III**(Lectures: 10)**

Definition and classification of fatty acids (saturated and unsaturated). Essential fatty acids. Important reactions of functional groups present in fatty acids. Characteristics of fatty acids and fats (saponification, iodine, acid, acetyl and peroxide values). Refractive index, m. p., bp. and their relation to molecular size. Properties of glycerol. Fats as source of energy. Waxes. Structures, characteristics and functions of lipids: triacylglycerol, phospholipids: lecithin (Phosphatidylcholines), lysolecithins, cephalins (phosphatidylethanolamines), phosphatidylserines, Phosphatidylinositol, sphingomyelins, plasmalogens, cerebroside, gangliosides, sulfatides.

SECTION-IV**(Lectures: 10)**

Lipoproteins – composition, classification and biological functions. Liposomes. Terpenes and steroids – Terpenes of biological significance e.g. carotenes, phytol. Cholesterol and other animal sterols. Color reactions of sterols. Sterols of yeast and fungi (mycoosterols). Phytosterols. Steroidal hormones. Bile acids. Structure and properties of eicosanoids-prostaglandins, leukotrienes, thromboxanes, prostacyclins

Suggested Books:

1. Nelson D.L.Cox M M : Biochemistry, Worth Publishers Inc., New York. (7th Edition,January 2017)
2. Conn E.E&Stumpf. P.K. : Outlines of Biochemistry, John Wiley & Sons, U.S.A.
3. Zubays Principles of Biochemistry (Veer Bala Rastogi) 2018, Meditech Publication :
4. Robert K. Murrary P.A. : Harper's Illustrated Biochemistry, Prentice Hall Int., D.K. Granner and V.W. Rodwell London (34th Edition, 2018).
5. Dean R. Appling (Author),Biochemistry: Concepts and Connections, Pearson publisher (2016), Spencer J. Anthony-Cahi

PRACTICALS:

Marks: 25
One practical per week

1. Qualitative tests for carbohydrates.
2. Estimation of carbohydrate by anthrone method.
3. Estimation of ascorbic acid by dye method.
4. Verification of Beer-Lambert law for nitrophenol or cobalt chloride.
5. Qualitative tests for cholesterol and lipids
6. Determination of saponification value of fats
7. Determination of iodine value of fats.
8. Estimation of phospholipids by vanillin method.

Paper-B: Nitrogen containing Biomolecules Marks: 45+5**SECTION-I****(Lectures: 10)**

Amino acids: common structural features. Stereoisomerism and RS system of designating optical isomers. Classification based on the nature of "R" groups. Amino acids present in proteins and non-protein amino acids. Specialized role of amino acids. Physical and chemical properties of amino acids. Titration of amino acids. Rigid and planar nature of a peptide bond. Folding of peptide chains into regular repeating structures (α helix, β -pleated sheets). β -turn in polypeptides. Biologically active peptides.

SECTION-II**(Lectures: 10)**

Proteins: Structural levels Primary, Secondary, Tertiary and Quaternary structures of proteins structure. Forces stabilizing structure and shape of proteins. Native proteins and their conformations. Behaviour of proteins in solutions. Salting in & salting out of proteins. Denaturation of proteins. Structural and functional diversity of proteins, fibrous proteins (keratins, collagen & elastin), globular proteins (hemoglobin, myoglobin) and conjugated proteins.

SECTION-III**(Lectures: 10)**

Nucleic Acids: structure and properties of purine and pyrimidine bases. Nucleosides and nucleotides. Biologically important nucleotides. Double helical model of DNA and forces responsible for it. Different forms of DNA (A, B and Z type), denaturation of DNA. Physical and chemical properties of nucleic acids. Chemical and enzymatic hydrolysis of nucleic acids. Types of RNA and ribozyme.

SECTION-IV**(Lectures: 10)**

Porphyryns: porphyrin nucleus and classification of porphyryns. Heme and other metalloporphyryns occurring in nature. Detection of porphyryns spectrophotometrically and by fluorescence. Chemical nature and physiological significance of bile pigments.

Suggested Books:

1. Nelson D.L.Cox M M : Biochemistry, Worth Publishers Inc., New York. (7th Edition, 2018)
2. Conn E.E&Stumpf. P.K. : Outlines of Biochemistry, John Wiley & Sons, U.S.A.
3. Zubays Principles of Biochemistry (Veer Bala Rastogi) 2018, Meditech Publication
4. Robert K. Murray P.A. : Harper's Illustrated Biochemistry, Prentice Hall Int., D.K. Granner and V.W. Rodwell London (34th Edition, 2018).
5. Dean R. Appling (Author), Biochemistry: Concepts and Connections, Pearson publisher (2016), Spencer J. Anthony-Cahi

PRACTICALS: Marks: 25
One practical per week

1. Qualitative tests for Amino acids and proteins
 2. Titration curve for amino acids and determination of pKa value.
 3. Estimation of Amino acids by ninhydrin method.
 4. Estimation of Protein by biuret method
 5. Estimation of Protein by Lowery method
 6. Estimation of DNA by diphenylamine method
 7. Estimation of RNA by orcinol method
 8. Spectrophotometric measurements of DNA and RNA solutions
-

BIO-CHEMISTRY

Semester II

INSTRUCTIONS FOR PAPER SETTER AND STUDENTS:

1. Total No. of questions will be nine. All questions carry equal marks.
2. Q. No. 1 will be compulsory. It will consist of short questions covering the entire syllabus
3. Besides question Number 1, there will be 4 sections of 2 questions each.
4. All other questions may contain 2-3 parts.
5. Questions should be uniformly spread over the entire syllabus.
6. Students will be required to attempt 5 questions in all including Q. No. 1 and at least one question from each of the 4 sections.

Paper- A: Biochemical Techniques

Marks: 45+5

Credit: 3+0+0

Objective: To learn various biochemical techniques

Section-I

(Lectures: 10)

Beer-Lambert's law. Characteristics of Light absorption and its transmittance. Determination and application of extinction coefficient. Applications of following spectroscopic techniques in elucidating structure of Biomolecules:-visible, U.V., Infra-red and fluorescence spectroscopy

Section-II

(Lectures: 10)

Chromatography: general principles, distribution coefficient, partition chromatography-normal phase and reverse phase liquid chromatography. Modes of chromatography-column, thin layer and paper chromatography. Principles, matrices and applications of gel permeation, adsorption, ion exchange and affinity chromatography. Gas chromatography (GC) and High Performance Liquid Chromatography (HPLC).

Section-III

(Lectures: 10)

Various centrifugation techniques and their applications in Biochemistry. Preparative and analytical ultracentrifugation procedures. Application of partial specific volume, diffusion coefficient and viscosity measurements in the study of macromolecules of biochemical importance.

Section-IV

(Lectures: 10)

Electrophoresis: General principle, support media, types of electrophoresis. Electrophoresis of proteins: native and SDS-PAGE. Isoelectric focusing, 2D-PAGE, detection and recovery of proteins. Molecular weight determination. Immunoelectrophoresis. Electrophoresis of nucleic acid: agarose-gel electrophoresis of DNA and RNA, pulsed-field gel electrophoresis, Northern and Southern transfer procedure.

SUGGESTED BOOKS

1. Analytical Techniques in Biochemistry and Molecular Biology (2020) by RajanKatochSpringer New York Dordrecht Heidelberg London
2. Principles and techniques of Biochemistry & Molecular biology by K Wilson & J Walker 8th Ed. Cambridge University press
3. Physical Biochemistry: Principles and Applications by 2013 David Sheehan

PRACTICALS:**Marks: 25****One practical per week**

- I. Estimation of proteins using UV absorbance and biuret method.
- II. Estimation of proteins using Lowry/Bradford method.
- III. Isoelectric pH of casein.
- IV. Ammonium sulphate fractionation of serum proteins.
- V. Separation of albumin from serum using anion-exchange chromatography.
- VI. Paper chromatography of amino acids.
- VII. SDS-PAGE analysis of proteins.

Paper-B: Enzymes and Bioenergetics**Marks: 45+5**

Objective: To learn principles of thermodynamics, nature of enzymes, their mode of action and enzyme kinetics

SECTION-I**(Lectures: 10)**

Introduction to enzymes. General characteristics of enzymes. IUB system of nomenclature and classification of enzymes. Prosthetic group. Holoenzyme, apoenzyme, cofactors, isoenzymes and their clinical significance and zymogens, coenzymes (NAD/NADP, FMN/FAD, coenzyme A, TPP, pyridoxal phosphate, tetrahydrofolate) and their biochemical functions, assay of enzyme activity, units of enzyme activity. Active site of enzymes

SECTION-II**(Lectures: 10)**

Enzymes as catalysts. Theories of enzyme catalysis: proximity and orientation effects, acid base catalysis, covalent catalysis. Role of metals in enzyme catalysis. Monomeric enzymes, oligomeric enzymes & multienzyme complexes. Mechanism of action of chymotrypsin and pyruvate dehydrogenase.

SECTION-III**(Lectures: 10)**

Factors affecting velocity of enzyme catalysed reactions: enzyme concentration, pH and temperature. Michaelis-Menten equation. Determination of K_m and its significance. Enzyme inhibition: Various types of enzyme inhibitions. Determination of K_i value. Enzyme inhibitors and their importance. Introduction to multisubstrate enzymes. Allosteric enzymes and enzyme regulation.

SECTION-IV**(Lectures: 10)**

Concepts of bioenergetics, principles of thermodynamics & their application in Biochemistry, concept of free energy. Biological oxidations. Redox potential. ATP and High energy phosphate compounds: introduction, phosphate group transfer potential, enzymes and co-enzymes involved in oxidations and reductions. Mitochondrial electron transport chain and oxidative phosphorylation. Substrate level phosphorylation, mechanism of oxidative phosphorylation.

Books Recommended:

1. J.R. Whitaker : Principles of Enzymology for the Food Sciences, 2nd Ed., Marcel Dekker, Inc., New York.
2. J.E. Bell and E.T. Bell : Protein and Enzymes, Prentice Hall Inc, New Jersey.
3. Berg J. M, Lubert Stryer : Bio-chemistry, W.F. Freeman and Co., New York, Edition 9th, 2019.
4. Nelson D.L & Cox M. M. : Principles of Bio-chemistry, Worth Publishers, Inc., New York, edition 7th 2018.
5. Conn E.E & Stumpf P.K. : Outlines of Bio-chemistry, Bruening & Doi John Wiley & Sons.
6. T. Palmer : Enzymes: Biochemistry, Biotechnology and Clinical chemistry, 2nd Ed. (2018) Affiliated East-West press Pvt. Ltd. New Delhi.

PRACTICALS:**Marks: 25****One practical per week**

- I. Preparation of casein from milk
 - II. Determination of achromatic point of saliva
 - III. Assay of serum alkaline phosphatase activity.
 - IV. Effect of pH on enzyme activity.
 - V. Effect of temperature on enzyme activity and determination of energy of activation.
 - VI. Effect of substrate concentration on enzyme activity and determination of K_m .
 - VII. Inhibition of alkaline phosphatase by EDTA.
 - VIII. Demonstration of potato polyphenoloxidase activity.
-

INTRODUCTION TO COMPUTER SCIENCE (Additional Optional Subject)

Note : The students with no background of Computer knowledge will opt for Module I while those familiar with the use of Computer system at the operating system level and application level, may opt either Module II or Module III.

Course Duration for each semester: 60 hours for Theory and 60 hours for Practical

| Sr. No. | Paper | Name of Paper | Lecturers per week | Max. Marks | | | Exam Hours |
|------------------------|-------|--|--------------------|------------|------|----|------------|
| | | | | Ext. | Int. | | |
| First Semester | | | | Ext. | Int. | | |
| 1 | A | Fundamentals of Information Technology | 6 | 25 | 5 | 30 | 3 |
| 2 | C | Practical on Paper – A | 6 | - | - | 20 | 3 |
| Second Semester | | | | Ext. | Int. | | |
| 3 | B | Computer Programming Using C | 6 | 25 | 5 | 30 | 3 |
| 4 | D | Practical on Paper – B | 6 | - | - | 20 | 3 |

SEMESTER I

Paper A

Paper Title: Fundamentals Of Information Technology

Max. Marks : 25

Time : 3 Hrs.

Theory : Ext. 25 + Int. 5 = 30

Practical : Ext. 20 -- = 20

Total Periods (6 Periods/week): 60

Objective : To familiarize students with basic concepts of Computer and Information Technology, Students will get understanding of concepts related to operating systems and application softwares.

Note:

- i. The Question Paper will consist of Four Units.
- ii. Examiner will set total of **NINE** questions comprising **TWO** questions from each Unit and **ONE** compulsory question of short answer type covering whole syllabi.
- iii. The students are required to attempt ONE question from each Unit and the Compulsory question.
- iv. All questions carry equal marks unless specified.

UNIT-I

1. **Basics of Computers:** Characteristics of computer; History of computers; classification of computers based on size, architecture, and chronology; Applications of computers; Hardware, Software, and Firmware. Types of software: System and Application software; Input, Process and Output, Block diagram of a computer.
2. **Representation of information:** BIT, BYTE, Memory, Memory size; RAM, ROM, PROM, EPROM, Magnetic tapes, Disks, Organization of data on disks: Tracks, sectors, cylinders, heads, access time, seek time and latency time.
ASCII and EBCDIC Codes, Binary, Octal, Decimal and Hexadecimal Number Systems and their Conversion, Integer and Floating Point Representation. Input/Output devices.

UNIT-II

3. **Disk Operating System:** Booting sequence; Warm and Cold Booting; Concept of File and directory, Types of DOS commands: Internal and External; Internal Commands: DIR, MD, CD, CLS, COPY, DATE, DEL, PATH, PROMPT, REN, RD, TIME, TYPE, VER, VOL; External Commands: XCOPY, ATTRIB, BACKUP, RESTORE, FORMAT, DISKCOPY, Introduction to CONFIG.SYS and AUTOEXEC.BAT files.
4. **Windows:** GUI, Icons, Toolbar, Control panel, Files and folder management under windows , Accessories, Network Neighborhood, System Tools, Recycle Bin
5. **LINUX:** Overview of LINUX structure, Basic Linux commands such as date, echo, cal, bc, passwd, File and Directory commands such as ls, mkdir, pwd, cd, rmdir, cat, cp, mv, rm Understanding File Access Permissions using chmod, chown, chgrp.
Comparison of main features of DOS, LINUX and Windows Operating Systems.

UNIT-III

6. **Word Processing Software:**
Basics of Word Processing: creating, opening, saving, and printing document, Menu Toolbars.
Editing Text: Copy, Paste, Delete, Move etc., Finding and Replacing Text, Spell Check, Autocorrect feature, language setting and thesaurus
Formatting: Character, Paragraph and Page formatting, working with indents, Bulleted and numbered lists, adding Headers and Footers, setting up Multiple Columns
Working with tables: Inserting/creating table using toolbar and drawing, formatting table, adding/deleting rows/columns, Applying borders to tables
Clipart: Using clip art, Creating Word Art
Mail merge: Creating merged envelopes, creating merged mailing labels

UNIT-IV

7. **Spreadsheet Software:**
Worksheet overview: Row, Column, Cells, Menus, creating, opening, saving, and printing worksheet; working with Range

Editing information: Entering text, numbers and formulae, AutoSum, AutoFill, spell checking

Working with Functions: Statistical, Mathematical and String functions, date and Time functions, Trigonometric functions

Working with charts: Line graphs, Pie charts, Bar graphs, adding Titles, Legends etc. to charts, Printing Charts
8. **Presentation Software:**
 Basic features, selecting design templates, creating, saving and printing a simple presentation, various views, Adding pictures, shapes, clipart, audio and movie.

References:

| | | |
|----|--------------------|--|
| 1. | Basandra, S.K. | Computers Today's by Galgotia Publications, N.Delhi |
| 2. | Taxali, R.K. | PC Software made simple by. - Tata McGraw Hill –New Delhi. |
| 3. | Sinha, P.K. | Computer Fundamentals by. BPB Pubs, New Delhi |
| 4. | Sanders, Donald M. | Computers Today's by McGraw Hill, New York, 3 rd ed., N.Y. Int. ed. |
| 5. | Rajaraman, V. | Fundamentals of Computers, PHI, New Delhi, |
| 6. | Curtin | Information Technology TMH, New Delhi. |
| 7. | Mansfield, Ron. | Compact Guide to Windows, Word and Excel BPB Publishers New Delhi |
| 8. | Norton, P. | Complete guide to LINUX, Techmedia |

Paper – C : Practical on Paper - A

Total Periods (6 Periods/week): 60

Max Marks: 20

Exam Hours: 4

Note for the Paper setter:

Paper will be set at the time of examination. Due weightage may be given to practical note-book and assignments.

INTRODUCTION TO COMPUTER SCIENCE SEMESTER II

Paper B

Paper Title: Computer Programming Using C

Max. Marks : 25

Time : 3 Hrs

Theory: Ext. 25 + Int. 5 = 30

Practical : Ext. 20 -- = 20

Total Periods (6 Periods/week): 60

Objective : To make student understand programming concepts of 'C' language including functions, arrays, input/output etc.

Note:

- i. The Question Paper will consist of Four Units.
- ii. Examiner will set total of **NINE** questions comprising **TWO** questions from each Unit and **ONE** compulsory question of short answer type covering whole syllabi.
- iii. The students are required to attempt ONE question from each Unit and the Compulsory question.
- iv. All questions carry equal marks unless specified.

UNIT-I

1. **Problem Solving:** Problem Identification, Analysis, Flow charts, Decision Tables, Pseudo code and algorithms, Program Coding, Program Testing and Execution.
2. **C Language Fundamentals:** 'C' Language: History, Structure of a C program, Data types, Constants and variables, Operators and Expressions, Type casting, Type conversion, Scope Rules:Local and Global variables, I/O functions, Input/Output, Control constructs(Sequencing, alteration and iteration)
3. **Header files:** stdio.h, ctype.h, string.h, math.h, stdlib.h, time.h
4. **Storage classes:** automatic, external, static, register
5. **Preprocessor:** #define, #include, #undef, #conditional compilation directives (#if, #else, #elif, #endif, #ifdef and #ifndef)

UNIT-II

6. **Functions:** library functions, user defined functions, scope rule of functions, Parameter passing: call by value and call by reference, Recursion
7. **Arrays:** One dimensional and two dimensional arrays, declaring arrays, initializing arrays, processing of arrays, passing arrays as arguments to functions

UNIT-III

8. **Strings:** Declaring String, built-in string functions-strlen(),strcpy(), strcat(), strcmp(), array of strings, two dimensional array of characters, Array of Pointers to Strings
9. **Structure:** Defining a structure type, declaring variables of structure type, initializing structures. Accessing Structure Elements, array of structures, Array in Structures, Difference between array and structure, nested structures

UNIT-IV

10. **Console Input/Output:** Console I/O Functions, Formatted Console I/O Functions, printf() and scanf() Functions, Unformatted Console I/O Functions, gets(), puts()
11. **File Input/Output:** File Operations, Opening a File, File Opening Modes, Reading from a File, Trouble in Opening a File, Writing to a File, Closing the File, Text Files and Binary Files.

References:

| | | |
|----|---------------------|---|
| 1. | Kanetkar, Yashavant | Let us C, BPB Publications, New Delhi, 8 th Edition. |
| 2. | Gottfried, B. | Theory and problems of Programming in C, Schaum Series, N.D., TMH |
| 3. | Sinha, P.K. | Computer Fundamentals, BPB Publications. |
| 4. | Salaria, R.S. | Application Programming in C; Khanna Book Publishing Co. (P) Ltd., New Delhi. |

Paper – D : Practical on Paper - B

Total Periods (6 Periods/week): 60

Max Marks: 20

Exam Hours: 4

Note for the Paper setter:

Paper will be set at the time of examination. Due weightage may be given to practical note-book and assignments.

MICROBIOLOGY**B.Sc. (GENERAL) FIRST YEAR (SEMESTER SYSTEM) EXAMINATION (2023-24)**

- Note* : 1. A student who has passed the + 2 examination under 10+2+3 system of education of a recognized University/Board/Council or any other examination recognized by the Panjab University as equivalent thereto shall be eligible to offer the subject of Microbiology at the B.Sc. level, if he/she has passed the +2 examination with Physics, Chemistry, Mathematics, Biology as his/her subjects.
2. Only such colleges which have all necessary infrastructure or equipment and staff shall admit students to the subject of Microbiology. The infrastructure must be approved by the University as per usual practice.

| <i>Scheme of Examination</i> | <i>Duration</i> | <i>Marks</i> |
|---|-----------------|------------------|
| FIRST YEAR | | |
| Semester I | | |
| THEORY | 6 hrs | 75 (66+9*) |
| MIC 101: Fundamentals of Microbiology -I | 3 hrs. | 37.5 (33 + 4.5*) |
| MIC 102 : Microbial Physiology—Metabolism – I | 3 hrs. | 37.5 (33 + 4.5*) |
| PRACTICAL | | |
| One Practical examination pertaining to the entire syllabus included in Theory Papers MIC 101 and MIC 102 | 6 hrs | 25 (22+3*) |
| Semester II | | |
| THEORY | 6 hrs | 75 (66+9*) |
| MIC 201: Fundamentals of Microbiology -II | 3 hrs. | 37.5 (33 + 4.5*) |
| MIC 202 : Microbial Physiology—Metabolism –II | 3 hrs. | 37.5 (33 + 4.5*) |
| Practical | | |
| One Practical examination pertaining to the entire syllabus included in Theory Papers MIC 201 and MIC 202 | 6 hrs | 25 (22+3*) |

Note : * Denotes marks for the Internal Assessment.

MICROBIOLOGY
OUTLINES OF TESTS AND SYLLABI
MICROBIOLOGY
B.Sc. (GENERAL) FIRST YEAR EXAMINATION
MIC 101 : FUNDAMENTALS OF MICROBIOLOGY (I)

Semester-I

MAX. MARKS: 37.5 MARKS
THEORY: 33 MARKS
INTERNAL ASSESSMENT: 4.5 MARKS
TIME: 3 HRS.

Note : The question paper will consist of four sections (A-D). There will be **nine** questions, out of which **five** questions have to be attempted. Question I will span the complete syllabus and will be compulsory. Rest of the eight questions will be from different sections of the syllabus. There will be four questions from each of the two sections and two is to be attempted from each section. Each question should be sub-divided into 2-4 sub parts.

Objective :

To provide basic knowledge about the fundamental concepts of Microbiology including history of Microbiology, Microscopic examination of microbes and providing information in frontier areas of genetic engineering, environmental science and agriculture.

SECTION-A

1. History, development, scope and applications of Microbiology.
2. Methods of Microbiology, isolation of pure cultures, theory and practice of sterilization.
3. Nature of Microbial World : Prokaryotes and eukaryotes, growth pattern in microbes.

SECTION-B

1. Morphology and fine structure of bacteria, fungi, actinomycetes and algae.
2. Organization of cell wall, cell membrane, flagella and capsules in bacteria.
3. Morphogenesis in bacteria, formation of spores and cysts.

SECTION-C

1. Recombinant DNA technology: genetic engineering and gene cloning in microorganisms.
2. Strategies of genetic engineering: Restriction enzymes, vectors and plasmids.

SECTION-D

1. Microorganism Association with Vascular Plants: Rhizosphere and Rhizoplane microorganisms and Mycorrhizae.
2. Nitrogen fixation: Symbiotic and nonsymbiotic and biofertilizers.
3. Biopesticides.

Recommended Books :

1. Fox, S.W., Dose, K. (1994), Molecular Evolution and the Origin of Life, University of Chicago Press.
2. Stanier, R.Y., Doudoroff, M., Adelberg, E.A. (1999), General Microbiology, Mc Millan Press, London.
3. Pelczar, M.J., Sun Chan E.C., Krieg, N.R. (1986), Microbiology, Tata Mc Graw Hill Publication, New Delhi.
4. Davis, (1996), Fundamental of Microbiology.
5. Reard, (1995), Introduction of Microbiology.
6. Robert, L. (1995), Soil Microbiology, John Wiley and Sons.
7. Alexander, M. (2003), Soil Microbiology, Wiley, 2003.
8. Waksman, S.A. (2003), Introduction to Soil Microbiology, John Wiley, 2003.
9. Prescott, Harley, and Klein's Microbiology by Joanne M.Willey, Linda M. Sherwood and Christopher J. Woolverton, Mc Graw Hill (2008)

MICROBIOLOGY
B.Sc. (GENERAL) FIRST YEAR EXAMINATION
MIC 102 : MICROBIAL PHYSIOLOGY—METABOLISM (I)
Semester-I

MAX. MARKS: 37.5 MARKS
THEORY: 33 MARKS
INTERNAL ASSESSMENT: 4.5 MARKS
TIME: 3 HRS.

Note : The question paper will consist of four sections (A-D). There will be **nine** questions, out of which **five** questions have to be attempted. Question I will span the complete syllabus and will be compulsory. Rest of the eight questions will be from different sections of the syllabus. There will be four questions from each of the two sections and two is to be attempted from each section. Each question should be sub-divided into 2-4 sub parts.

Objective :

The paper provides basic information on complex integrated network of biochemical reactions that make up the metabolism of the micro-organisms including nutrition, growth, and enzymes.

SECTION-A

1. Microbial Nutrition : Requirements for Growth. Physical requirement (temperature, pH, osmotic pressure), chemical requirements (C, N, S, P, O).
2. Culture Media : Chemically defined media, complex media, anaerobic growth media, selective & differential media, and enrichment culture. Cultivation of Aerobes and Anaerobes.

SECTION-B

1. Enzymes : Chemical and physical properties of enzymes.
2. Classification and nomenclature of Enzymes.
3. Factors affecting enzyme activity.

SECTION-C

Microbial Metabolism :

1. Respiration and fermentation.
2. Glycolysis.
3. Pentose Phosphate pathway,
4. The Entner Doudoroff pathway.
5. Tricarboxylic acid cycle.
6. Glyoxylate cycle.

SECTION-D

Bacterial Genetics :

1. Conjugation.
2. Transformation.
3. Transduction (generalized transduction, specialized transduction).
4. The Regulation of Gene Expression : Lac operon, tryptophan operon. Recommended

Recommended Books :

1. Stanier R.Y., Doudoroff M., Adelberg, E.A. (1999), General Microbiology, McMillan Press, London.
2. Pelczar, M.J., Sun Chan, E.C., Krieg, N.R. (1986), Microbiology, Tata Mc Graw Hill Publication, New Delhi.
3. Tortora, G.J., Funke, B.R., Case, C.L. (2009), Microbiology : An Introduction, Benjamin/Cummings Publishing Company inc.
4. Postgate, J.R. (2000), Microbes and Man, Cambridge University Press.
5. Dubey, R.C., Maheshwari, D.K., (2005), A Textbook of Microbiology, S. Chand and Company.

MICROBIOLOGY
B.Sc. (GENERAL) FIRST YEAR EXAMINATION
Semester I

MAX. MARKS: 25 MARKS
PRACTICAL: 22 MARKS
INTERNAL ASSESSMENT: 3 MARKS
TIME: 3 HRS.

PRACTICALS

1. Preparation of culture media, spread plates, pour plates, selective media, differential media.
2. Separation of pure cultures and study the effect of selective nutrients on prokaryotes.
3. Isolation of Soil Bacteria, Soil Fungi, Soil Actinomycetes.
4. Selective media for Soil microflora and use of growth factors, Study of Rhizosphere interactions, Quantitative measurements of Soil nutrients and Rhizosphere microflora and preparation of starter cultures of Rhizobium, Azotobacter.
5. Measurement of Soil Enzymes.
6. Use of ultraviolet light for its germicidal effect.
7. The replica plating technique.
8. Effect of temperature, Osmotic pressure, energy source etc. on growth of prokaryotes.

MICROBIOLOGY
B.Sc. (GENERAL) FIRST YEAR EXAMINATION
MIC 201 : FUNDAMENTALS OF MICROBIOLOGY (II)

Semester-II

MAX. MARKS: 37.5 MARKS
THEORY: 33 MARKS
INTERNAL ASSESSMENT: 4.5 MARKS
TIME: 3 HRS.

Note : The question paper will consist of four sections (A-D). There will be **nine** questions, out of which **five** questions have to be attempted. Question I will span the complete syllabus and will be compulsory. Rest of the eight questions will be from different sections of the syllabus. There will be four questions from each of the two sections and two is to be attempted from each section. Each question should be sub-divided into 2-4 sub parts.

Objective :

To provide basic knowledge about the fundamental concepts of Microbiology including history of Microbiology, Microscopic examination of microbes and providing information in frontier areas of genetic engineering, environmental science and agriculture.

SECTION-A

1. Microscopic examination of micro-organism, bright field microscopy, dark field microscopy, phase contrast microscopy and electron microscopy.
2. Staining of microbes, theory of Gram staining.

SECTION-B

1. Animal Viruses : Morphology, cultivation and viral disease cycle.
2. Bacteriophages : Morphology, multiplication, detection and enumeration.
3. Biotransformation of
 - (a) D-Sorbitol to L-Sorbose.
 - (b) Antibiotics.
 - (c) Steroids.

SECTION-C

Genetic engineering for human welfare:

1. Production of pharmaceuticals.
2. Insect pest control.
3. Use of Genetically Engineered Microorganisms (GEMs) for control of pollution.

SECTION-D

1. Biogeochemical Cycling—Carbon cycle, Nitrogen cycle, Phosphorus and Sulphur cycle with role of microorganisms.
2. Sewage (waste-water) treatment, chemical characteristics, microbiological characteristics, waste water treatment processes.

Recommended Books :

1. Fox, S.W., Dose, K. (1994), Molecular Evolution and the Origin of Life, University of Chicago Press.
2. Stanier, R.Y., Doudoroff, M., Adelberg, E.A. (1999), General Microbiology, Mc Millan Press, London.
3. Pelczar, M.J., Sun Chan E.C., Krieg, N.R. (1986), Microbiology, Tata Mc Graw Hill Publication, New Delhi.
4. Davis, (1996), Fundamental of Microbiology.
5. Reard, (1995), Introduction of Microbiology.
6. Robert, L. (1995), Soil Microbiology, John Wiley and Sons.
7. Alexander, M. (2003), Soil Microbiology, Wiley, 2003.
8. Waksman, S.A. (2003), Introduction to Soil Microbiology, John Wiley, 2003.
9. Prescott, Harley, and Klein's Microbiology by Joanne M.Willey, Linda M. Sherwood and Christopher J. Woolverton, Mc Graw Hill (2008)

MICROBIOLOGY
B.Sc. (GENERAL) FIRST YEAR EXAMINATION
MIC 202 : MICROBIAL PHYSIOLOGY—METABOLISM (II)
Semester – II

MAX. MARKS: 37.5 MARKS

THEORY: 33 MARKS

INTERNAL ASSESSMENT: 4.5 MARKS

TIME: 3 HRS.

Note : The question paper will consist of four sections (A-D). There will be **nine** questions, out of which **five** questions have to be attempted. Question I will span the complete syllabus and will be compulsory. Rest of the eight questions will be from different sections of the syllabus. There will be four questions from each of the two sections and two is to be attempted from each section. Each question should be sub-divided into 2-4 sub parts.

Objective :

The paper provides basic information on complex integrated network of biochemical reactions that make up the metabolism of the micro-organisms including nutrition, growth, and enzymes.

SECTION-A

1. Microbial Growth : Growth in population, bacterial growth curve, mathematical nature and expression.
2. Factors affecting growth in microorganisms.
3. Methods for measurement of growth in microorganisms. .

SECTION-B

1. Mechanisms of enzymes action.
2. Inhibition, control and regulation of enzyme activity .
3. Enzyme kinetics: Michaelis-Menten equation.

SECTION-C

Microbial Metabolism :

1. Catabolism of lipids and proteins.
2. Beta oxidation
3. Electron transport chain.
4. Biochemical mechanisms of generation of ATP.

SECTION-D

Microbial Utilization of Energy & Biosynthesis :

1. Transport of nutrient by bacteria.
2. Synthesis of Amino Acids : Glutamate, lysine, glutamine, serine, arginine family.
3. Structures and biosynthesis of cell wall peptidoglycan.
4. Biosynthesis of Carbohydrates (gluconeogenesis) & Phospholipids.
Replication of DNA molecules, Transcription & Translation (process of protein synthesis).

Recommended Books :

1. Stanier R.Y., Doudoroff M., Adelberg, E.A. (1999), General Microbiology, McMillan Press, London.
2. Pelczar, M.J., Sun Chan, E.C., Krieg, N.R. (1986), Microbiology, Tata Mc Graw Hill Publication, New Delhi.
3. Tortora, G.J., Funke, B.R., Case, C.L. (2009), Microbiology : An Introduction, Benjamin/Cummings Publishing Company inc.
4. Postgate, J.R. (2000), Microbes and Man, Cambridge University Press.
5. Dubey, R.C., Maheshwari, D.K., (2005), A Text Book of Microbiology, S. Chand and Company.

MICROBIOLOGY**B.Sc. (GENERAL) FIRST YEAR EXAMINATION****Semester -II****MAX. MARKS: 25 MARKS****PRACTICAL: 22 MARKS****INTERNAL ASSESSMENT: 3 MARKS****TIME: 3 HRS.****PRACTICALS**

1. Use of microscope in examination of unstained bacteria, fungi, algae, parasites and stained cell preparations including simple staining, Gram's staining, acid fast staining, capsule staining, spore staining using prokaryotic and eukaryotic cells, hanging drop preparation.
2. Presumptive, confirmed and completed tests for safety of water supplies.
3. Relation of free oxygen to microbial growth, monitoring of dissolved oxygen in various effluents.
4. Determination of COD in Industrial effluents.
5. Effects of antimetabolites on Microbial culture (Inhibition by Sulfanilamide).
6. Determination of Water Activity of various substrates and assay of surface active agents.
7. Turbidimetric/spectrophotometric monitoring of growth using liquid cultures.
8. Efficiency of photosynthesis in photoautotrophs.

Environment, Road Safety Education, Violence against Women/Children and Drug Abuse**SEMESTER II****Instructions :**

- The total duration of the whole paper (consisting of four parts) shall be of 2 hours carrying 100 marks in whole, divided into the ration of 40:20:20:20
- The teaching hours for the Environment portion of this paper, would be 20 and of Road Safety, Violence against Women/Children and Drug Abuse shall be 10 hours each.

Part - I (Environment)

Note: *The syllabus has 15 topics to be covered in 20 hour lectures in total, with 2 lectures in each topic from 2 to 11 and one each for the topics 1 and 12 to 15.*

1. Environment Concept :

Introduction, concept of biosphere—lithosphere, hydrosphere, atmosphere; Natural resources—their need and types; principles and scope of Ecology; concepts of ecosystem, population, community, biotic interactions, biomes, ecological succession.

2. Atmosphere :

Parts of atmosphere, components of air; pollution, pollutants, their sources, permissible limits, risks and possible control measures.

3. Hydrosphere :

Types of aquatic systems. Major sources (including ground water) and uses of water, problems of the hydrosphere, fresh water shortage; pollution and pollutants of water, permissible limits, risks and possible control measures.

4. Lithosphere :

Earth crust, Soil—a life support system, its texture, types, components, pollution and pollutants, reasons of soil erosion and possible control measures.

5. Forests :

Concept of forests and plantations, types of vegetation and forests, factors governing vegetation, role of trees and forests in environment, various forestry programmes of the Govt. of India, Urban Forests, Chipko Andolan.

6. Conservation of Environment :

The concepts of conservation and sustainable development, why to conserve, aims and objectives of conservation, policies of conservation; conservation of life support systems—soil, water, air, wildlife, forests.

7. Management of Solid Waste :

Merits and demerits of different ways of solid waste management—open dumping, landfill, incineration, resource reduction, recycling and reuse, vermicomposting and vermiculture, organic farming.

8. **Indoor Environment :**
Pollutants and contaminants of the in-house environment; problems of the environment linked to urban and rural lifestyles; possible adulterants of the food; uses and harms of plastics and polythene; hazardous chemicals, solvents and cosmetics.
9. **Global Environmental Issues :**
Global concern, creation of UNEP; Conventions on climate change, Convention on biodiversity; Stratospheric ozone depletion, dangers associated and possible solutions.
10. **Indian Laws on Environment :**
Indian laws pertaining to Environmental protection : Environment (Protection) Act, 1986; General information about Laws relating to control of air, water and noise pollution. What to do to seek redressal.
11. **Biodiversity :**
What is biodiversity, levels and types of biodiversity, importance of biodiversity, causes of its loss, how to check its loss; Hotspot zones of the world and India, Biodiversity Act, 2002.
12. **Noise and Microbial Pollution :**
Pollution due to noise and microbes and their effects.
13. **Human Population and Environment :**
Population growth and family welfare programme, Human Health, HIV/AIDS, Human rights.
14. **Social Issues :**
Environmental Ethics : Issues and possible solutions, problems related to lifestyle, sustainable development; Consumerisms and waste generation.
15. **Local Environmental Issues :**
Environmental problems in rural and urban areas, Problem of Congress grass & other weeds, problems arising from the use of pesticides and weedicides, smoking etc.

Practicals:

Depending on the available facility in the college, a visit to Vermicomposting units or any other such non-polluting eco-friendly site or planting/caring of vegetation/trees could be taken.

Examination Pattern :

A qualifying paper of 40 marks comprising of 40 multiple choice questions (with one correct and three incorrect alternatives and no deduction for wrong answer or unattempted question), and of 1 hour duration.

The students have to obtain 33% marks to qualify the paper. The marks are not added/included in the final mark sheet.

Part - II (Road Safety Education)

1. Concept and Significance of Road Safety.
2. Role of Traffic Police in Road Safety.
3. Traffic Engineering – Concept & Significance.
4. Traffic Rules & Traffic Signs.
5. How to obtain Driving License.
6. Traffic Offences, Penalties and Procedures.
7. Common Driving mistakes.
8. Significance of First-aid in Road Safety.
9. Role of Civil Society in Road Safety.
10. Traffic Police-Public Relationship.

Note : Examination Pattern :

- The Environment and Road Safety paper is 60 marks.
- Sixty multiple choice questions (with one correct and three incorrect alternatives and no deduction for wrong or un-attempted questions).
- The paper shall have two units: **Unit I (Environment) and Unit II (Road Safety)**.
- Unit II shall comprise of 20 questions with minimum of 1 question from each topics 1 to 10.
- The entire syllabus of Unit II is to be covered in 10 hours.
- All the questions are to be attempted.
- Qualifying Marks 33 per cent
- Duration of examination : 60 minutes
- The paper setter is requested to set the questions strictly according to the syllabus.

Suggested Readings

1. The Motor Vehicle Act, 1988 (2010), Universal Law Publishing Co. Pvt. Ltd., New Delhi.
2. Road Safety Signage and Signs (2011), Ministry of Road Transport and Highways, Government of India.

Websites:

- (a) www.chandigarhpolice.nic.in
- (b) www.punjabpolice.gov.in
- (c) www.haryanapolice.gov.in
- (d) www.hppolice.nic.in

Part - III (Violence against Women / Children)

1. **Concept and Types of Violence:** Meaning and Definition of violence; Types of Violence against women – domestic violence, sexual violence (including rape), sexual harassment, emotional/psychological violence; Types of Violence against children – physical violence, sexual violence, verbal and emotional abuse, neglect & abandonment.

2. **Protective Provisions of IPC on Domestic Violence & Sexual Violence against Women:**

Dowry Death – Section 304B;

Rape – Sections 375, 376(1), 376(A), 376B, 376C, 376D and 376E;

Cruelty - Section 498A;

Insult to Modesty – The Indian Penal Code does not define the word eve-teasing; there are three sections which deal with crime of eve-teasing. These are Sections 294, 354 and 509 of Indian Penal Code. Section 509 of the Indian Penal Code defines (Word, gesture or act intended to insult the modesty of a woman), Section 294 – (Obscene acts and songs) and Section 354 (Assault or criminal force to woman with intent to outrage her modesty).

Hurt & Grievous Hurt Provisions – Sections 319 to 326;

Acid Attacks – Sections 326A and 326B;

Female Infanticide – Section 312, Section 313 of Indian Penal Code (Causing miscarriage without women's consent) and section 314;

Sexual Harassment – For providing protection to working women against sexual harassment, a new section 354 A is added; 354 B (Assault or use of criminal force to women with intent to disrobe); 354 C Voyeurism; 354 D (Stalking). All these provisions are added in IPC to protect women against acts of violence through Criminal Law (Amendment) Act, 2013; Human Trafficking and Forced Prostitution- Sections 370 and 370A

3. **Protective Laws for Women:**

3.1 Provisions of Protection of Women Against Domestic Violence Act 2005 – Definition, Powers of the Magistrate and Protection Officers, Protection order, Residence order, Monetary relief, Custody order and Compensatory order.

3.2 The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 – Definition, Internal Complaint Committee, Local Complaint Committee, Procedure adopted by Committee for punishing accused.

4. **Protective Provisions of IPC regarding Sexual Violence against Children:**

Section 293(sale etc. of obscene objects to young persons); 294 (obscene acts & songs); 305(abetment of suicide of child); 315 to 317 (act causing death after birth of a child etc.); 361(kidnapping from lawful guardianship); 362 (abduction); 363 (punishment for kidnapping); 363A (kidnapping or maiming a minor for purposing of begging); 364A (kidnapping for ransom etc.); 366 (kidnapping etc. to compel woman for marriage etc.); 366A (procuration of minor girl for illicit forced intercourse); 366B (importation of girl from foreign country); 367 (kidnapping/abduction in order to subject person to grievous hurt, slavery etc.); 369 (kidnapping adductive child under 10 year with intent to steal from its person); 372 & 373 (selling & buying minor for purposes of prostitution etc.).

4.1 **The Protection of Children from Sexual Offences Act, 2012:** An overview of the POCSO, relevant legal provisions and guidelines for the protection of children against sexual offences along with punishments; role of doctors, psychologists & mental experts as per rules of POCSO.

Note: Instructions for Examination:

- Unit III of the paper dealing with Violence against Women and Children is of 20 Marks.
- It shall have 20 multiple-choice questions (with one correct and three incorrect choice options and no deduction of marks for wrong or un-attempted questions).
- Minimum two questions from each topic must be covered.
- All the questions are to be attempted
- Qualifying Marks 33 percent
- Duration of Examination 30 Minutes
- The Paper Setter is requested to set the questions strictly according to the syllabus.

Pedagogy:

- The entire syllabus of Unit III is to be covered in ten hours in total, with each lecture of one-hour duration.
- The purpose behind imparting teaching-learning instructions is to create basic understanding of the contents of the Unit III among the students.

RELEVANT READING MATERIAL

Ahuja, Ram (1998), *Violence against Women*, New Delhi: Rawat Publication

NRHM, *Child Abuse*, A Guidebook for the Media on Sexual Violence against Children

The Indian Penal Code (Universal Law Publishing Co. Pvt. New Delhi).

The Protection of Children from Sexual Offences Act, 2012

The Protection of Women from Domestic Violence Act 2005

The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013

UNO, *United Nations Secretary-General's Study on Violence against Children*, adapted for Children and Young People

www.slideshare.net/HRLNIndia/a-life-free-from-violence

http://hrln.rg/admin/issue/subpdf/Sexual_Harrassment_at_Workplace.pdf

UNIT IV (Drug abuse: problem, prevention and management)

1. Problem of drug abuse
Meaning and concept; types of drugs often misused;antibiotics, steroids and their misuse with suitable examples;habit forming drugs and their effects; drug addiction; drug tolerance and withdrawal symptoms;various signs and symptoms of drug abuse;vulnerable groups (age, gender and socio-economic status)
2. Prevention and management of drug abuse
Medical treatment through deaddiction center, support of family, media and school education; Government policies, programs and laws to prevent drug abuse.

Instructions to the examiners

1. Unit IV of the paper dealing with Drug abuse would be of 20 marks comprising of twenty multiple choice questions carrying one mark each having four options a, b, c, d with one correct and three incorrect alternatives.
2. The question paper shall be set strictly according to the syllabus uniformly
3. All the questions are to be attempted

Note: The teaching hours for the Unit IV will be 10 hours

Suggested readings

1. Kapoor T (1985) Drug epidemic among Indian Youth. New Delhi: Mittal Pub
2. Modi, Ishwar and Modi, Shalini (1997) Drugs: addiction and prevention, Jaipur: Rawat publications
3. World drug Report 2019, Booklet 1, Executive summary, United Nations Office of drug and crime
4. Bansal R and Kumar A (2021) Drug abuse, addiction and recovery



PANJAB UNIVERSITY, CHANDIGARH-160014 (INDIA)

(Estd. under the Panjab University Act VII of 1947—enacted by the Govt. of India)

SYLLABI

FOR

**B.A. & B.Sc. (GENERAL) SECOND YEAR
(SEMESTER SYSTEM)
EXAMINATIONS, 2023-24**

(SEMESTER : THIRD AND FOURTH)

i.e

Third Semester : November/December, 2023

Fourth Semester : April/May, 2024

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PANJAB UNIVERSITY, CHANDIGARH

**OUTLINES OF TESTS, SYLLABI AND COURSES OF READING IN VARIOUS SUBJECTS FOR
B.A./B.Sc. (GENERAL) SECOND YEAR (SEMESTER SYSTEM) i.e. THIRD SEMESTER
NOVEMBER/DECEMBER 2023 AND FOURTH SEMESTER APRIL/MAY 2024, EXAMINATIONS.**

ENGLISH (Compulsory)

SEMESTER – III

(FOR B.A. CANDIDATES ONLY)

| | | |
|--------------------------|---|----------|
| Max. Marks | : | 50 |
| Theory | : | 45 marks |
| Internal Assessment | : | 05 marks |
| Time | : | 03 Hours |
| Teaching Hours per week: | | 04 |

Objective:

- To teach finer nuances of language through an integrated approach.
- To acquire extensive knowledge of English as a language in its various textual forms and to become thoughtful, imaginative and effective communicators in a diverse and changing society.
- To write an effective business document (such as notice, advertisement etc.) which enable them to think analytically.
- To enhance their writing skill
- To acquire knowledge about various literary aspects through the text which capacitates them to enrich their literary and cultural values.
- To empower an average student in such a way that English learning becomes a pleasurable endeavour.

TEXT PRESCRIBED:

English for Empowerment, Eds., G Damodar, D Venkateshwarlu, M. Narendra, M. Sarat Babu, G. M. Sunderavalli, Hyderabad: Orient Blackswan, 2009.

Poetry Section:

- i. Ode to Autumn
- ii. The Road Not Taken
- iii. Money Madness
- iv. I, Too

Prose Section:

- i. Mr. Know All
- ii. Film Making
- iii. Not Just Oranges
- iv. A Tale on Advertising

TESTING SCHEME:**Section – A**

- Q.1. Reference to the context from Poetry. **One** out of **two** passages to be attempted. 5 marks
- Q.2. Short answer type question from Poetry (in about 50-60 words). **Five** out of **eight** are to be attempted. 10 marks
- Q.3. Long answer type questions from Prose (in about 100-120 words). **Two** out of **Four** are to be attempted. 6 marks

Section-B

- Q.4. Note making (**one** out of **two** is to be attempted) 4 marks
(The examiner will set **two** paragraphs based on the prescribed text for note making. The students be asked to attempt any **one** of the **two**).
- Q.5. Grammer:
- i. Non finite verbs 5 marks
 - ii. Punctuation (A short paragraph) 5 marks
 - iii. Do as directed (based on transformation of sentences) 10 marks
- (The examiner will set **three** different grammar excercises for every section of Q.5 based on the prescribed text in such a way that most of the activities, students have done in the class are adequately covered.)
-

ENGLISH (Compulsory)
SEMESTER – IV
(FOR B.A. CANDIDATES ONLY)

| | | |
|--------------------------|---|----------|
| Max. Marks | : | 50 |
| Theory | : | 45 marks |
| Internal Assessment | : | 05 marks |
| Time | : | 3 Hours |
| Teaching Hours per week: | | 04 |

Objective:

- To Teach Finer nuances of language through an integrated approach.
- To acquire extensive knowledge of English as a language in its various textual forms and to become thoughtful, imaginative and effective communicators in a diverse and changing society.
- To write an effective business document (such as notice, advertisement etc.) which enable them to think analytically.
- To enhance their writing skill.
- To acquire knowledge about various literary aspects through the text which capacitates them to enrich their literary and cultural values.
- To empower an average student in such a way that English learning becomes a pleasurable endeavour.

TEXT PRESCRIBED:

English for Empowerment, Eds., G. Damodar, D. Venkateshwarlu, M. Narendra, M. Sarat Babu, G. M. Sunderavalli, Hyderabad: Orient Blackswan, 2009.

Poetry Section:

- i. Goodbye Party for Miss Pushpa T.S.
- ii. I Will Embrace Only the Sun
- iii. Refugee Mother and Child
- iv. This is a Photograph of Me

Prose Section:

- i. On Shaking Hands
- ii. No Man is an Island
- iii. Freedom of the Press
- iv. An Except From Decolonizing the Mind

TESTING SCHEME:**Section – A**

- Q.1. Reference to the context from Poetry. **One** out of **two** passages to be attempted. 5 marks
- Q.2. Short answer type question from Poetry (in about 50-60 words). **Five** out of **eight** are to be attempted. 10 marks
- Q.3. Long answer type questions from Prose (in about 100-120 words). **Two** out of **Four** are to be attempted. 6 marks

Section – B

- Q.4. Paragraph writing (based on post-reading activities suggested in the prescribed texts) **One** out of **three** is to attempted. 5 marks
(The examiner will set **three** topics for paragraphs writing from the post reading activities suggested in the prescribed texts. While selecting this question, special care must be taken to borrow ideas from the text or suitably modify them so as to identify viable topics that the students of B.A.(compulsory) can easily handle.)
- Q.5. Report writing (with internal choice) 4 marks
(The examiner will give information about some social issue, an event/incident, some topic of current affairs etc. and will ask the students to write a report in about 100 words on the given topic. The information can also be given in form of a dialogue on some issue of general interest. The examiner will set this question with an internal choice).
- Q.6. Grammer:
i. Using nouns as verbs or vice-versa 5 marks
ii. Combining pairs of sentences using words given in the brackets 5 marks
iii. Text-based Idioms and Phrases 5 marks
(The examiner will set **four** different grammar excercises for every section of Q.5 based on the prescribed text in such a way that most of the activities students have done in the class are adequately covered.)

ENGLISH (Compulsory)
(FOR B.Sc. CANDIDATES ONLY)
SEMESTER-III

Note:

There will be one paper of 40 marks, 5 marks are reserved for the Internal Assessment and 5 for the Practical Work. Total is 50.

Teaching Hours per week: 04

The paper shall consist of Two Units. Unit I will be text specific and Unit II shall deal with different aspects of Communication and Language skills.

For Unit I, the prescribed text is **Varieties of Expression**, Ed. A. H. Tak, Foundation Books. Only four prose chapters and two dramas have been recommended for the study. The relevant sections, however, are as follows:

Unit I**Prose :** Chapters 1-4**Drama :** Dramas 1-2**Unit II**

Note (iv) No text book is recommended for Unit II, but a few books that may be used for this Unit are listed towards the end. Unit II shall consist of the following:

Business Communication: It shall focus on different aspects of communication in general and business communication in particular, communication within organizations, types of communication and significance of positive attitude in improving communication.

Writing Skills: This section shall focus on letters of all kinds, tender notices, auction notices, public notices; and memos.

Practical work:-

Teacher should assign some project or practical work to the students. This should be in the nature of guided activity, which the students shall have to complete under the direct supervision of the teacher. The students may be given projects on a variety of subjects relating to their discipline i.e. business, commerce, accounts etc. Preferably, they should be given minor projects (to be completed within less than two weeks, and length not exceeding 20 pages) in consultation with teachers of commerce. However, the evaluation of the projects should be done only by the Language Teachers, who must keep all the basic criteria of good writing in mind while doing so.

(Note: *In case of private candidates and students of Centre for Distance and Online Education, the marks obtained by them out of 40 will be proportionately increased out of 50).*

Testing Scheme:

The examination paper shall be divided into two sections, corresponding to two units already proposed in the syllabus. The distribution of questions and marks in Unit I shall be as follows:

Section I (It is text-based and corresponds to Unit I in the syllabus)

Q.1. It shall consist of six short questions. Three from Prose and three from drama (not exceeding 50-60 words) out of which a student will be expected to attempt any **two** from **Prose** and **two** from **Drama**. This question shall be based upon the prescribed text **Varieties of Expression** and cover a wide range of issues, topics and problems.

10 marks

Q.2. It shall consist of four long questions – **Two** from **Prose** and **two** from **Drama** (not exceeding 100-150 words) out of which a student will be expected to attempt **two**- one from Prose and one from Drama.

5 marks

Note: The question 1 & 2 should be so designed as to cover all the chapters prescribed (Prose & Drama)

Q.3. It shall exclusively be a test of vocabulary, but designed strictly on the lines of various exercises given at the end of each chapter in the prescribed text. The candidate shall be given **five** words in one column and asked to match them with words/meanings in the next column.

5 marks**Unit II**

Q.4. This question shall test a student's ability to write letter of various kinds (not more than 200 words). Again, there will be internal choice here.

5 marks

Q.5. Memos/Tender Notices/Auction Notices/Public Notices.

10 marks

Q.6. One short question to test the students' understanding of various aspects of Business Communication.

5 marks

.....

ENGLISH (Compulsory)
(FOR B.Sc. CANDIDATES ONLY)

SEMESTER-IV

Note:

There will be one paper of 40 marks, 5 marks are reserved for the Internal Assessment and 5 for the Practical Work. Total is 50.

Teaching Hours per week: 04

The paper shall consist of Two Units. Unit I will be text specific and Unit II shall deal with different aspects of Communications and Language skills.

For Unit I, the prescribed text is **Varieties of Expression**, Ed. A. H. Tak, Foundation Books. Only four prose chapters and two dramas have been recommended for the study. The relevant sections, however, are as follows:

Unit I

Prose : Chapters 5-8

Drama : Dramas 3-4

Unit II

Note (iv) No text book is recommended for Unit II, but a few books that may be used for this Unit are listed towards the end. Unit II shall consist of the following:

Writing Skills: This section shall focus on précis-writing, curriculum vitae, short, formal reports (not exceeding 200 words) and advertisements relating to product promotion etc.

Modern Forms of Communication: Here special emphasis shall be given to teaching the format of E-mails, Fax Messages, Audio-Visual Aids and Power-Point Presentations. Apart from this, the students shall also be given basic lessons in Effective Listening, Non-Verbal Communication. How to Prepare for an Interview & Group Discussion etc.

Practical Work:

Teacher should assign some project or practical work to the students. This should be in the nature of guided activity, which the students shall have to complete under the direct supervision of the teacher. The students may be given projects on a variety of subjects relating to their discipline i.e. business, commerce, accounts etc. Preferably, they should be given minor projects (to be completed within less than two weeks, and length not exceeding 20 pages) in consultation with teachers of commerce. However, the evaluation of the projects should be done only by the Language Teachers, who must keep all the basic criteria of good writing in mind while doing so.

(Note: *In case of private candidates and students of Centre for Distance and Online Education, the marks obtained by them out of 40 will be proportionately increased out of 50).*

Testing Scheme:

The examination paper shall be divided into two sections, corresponding to two units already proposed in the syllabus. The distribution of questions and marks in Section I shall be as follows:

Unit I (It is text-based and corresponds to Unit I in the syllabus)

Q.1. It shall consist of six short questions. Three from Prose and three from drama (not exceeding 50-60 words) out of which a student will be expected to attempt any four, **Two** from **Prose** and **two** from **Drama**. This question shall be based upon the prescribed text **Varieties of Expression** and cover a wide range of issues, topics and problems.

10 marks

Q.2. It shall consist of four long questions – **Two** from **Prose** and **two** from **Drama** (not exceeding 100-150 words) out of which a student will be expected to attempt **two**- one from Prose and **one** from Drama.

5 marks

Note: The question 1 & 2 should be so designed as to cover all the chapters prescribed (Prose & Drama)

Q.3. It shall exclusively be a test of vocabulary, but designed strictly on the lines of various exercises given at the end of each chapter in the prescribed text. The candidate shall be given **five** words in one column and asked to match them with words/meanings in the next column.

5 marks**Unit II**

Q.4. Short Survey Report (150-200 words) with internal choice.

5 marks

Q.5. Precis of 200 words.

10 marks

Q.6. Definition/Format of modern forms of communication to be tested.
(e-mail, fax, videoconferencing)

5 marks

ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)
(ਸਿਰਫ਼ ਬੀ.ਏ. ਦੇ ਵਿਦਿਆਰਥੀਆਂ ਲਈ)
ਸਮੇਸਟਰ ਤੀਜਾ

ਕੁੱਲ ਅੰਕ: 50
ਲਿਖਤੀ: 45
ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ: 5
ਸਮਾਂ: 3 ਘੰਟੇ

ਪਾਠਕ੍ਰਮ

| | | |
|----|--------------------------------------|--------|
| 1. | ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਬਾਰੇ ਨਿਬੰਧਾਂ ਦਾ ਅਧਿਐਨ | 20 ਅੰਕ |
| 2. | ਚਿੱਠੀ ਪੱਤਰ | 8 ਅੰਕ |
| 3. | ਪੰਜਾਬੀ ਭਾਸ਼ਾ | 7 ਅੰਕ |
| 4. | ਵਿਆਕਰਨ :ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ | 10 ਅੰਕ |

ਕੋਰਸ

1. ਪੰਜ-ਆਬ, (ਸੰਪਾ.) ਪ੍ਰੋ. ਭੁਪਿੰਦਰ ਸਿੰਘ ਖਹਿਰਾ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ।

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

| | | |
|----|--|--------------|
| 1. | (ੳ) ‘ਪੰਜ -ਆਬ’ ਪੁਸਤਕ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਨਿਬੰਧ ਦਾ ਵਿਸ਼ਾ ਦੱਸ ਕੇ ਸਾਰ ਲਿਖਣਾ (ਤਿੰਨਾਂ ਵਿਚੋਂ ਇਕ) | 4+6=10 ਅੰਕ |
| | (ਅ) ਨਿਬੰਧਾਂ ਦੀ ਪੁਸਤਕ ਵਿਚ ਆਏ ਸਭਿਆਚਾਰਕ ਸੰਕਲਪਾਂ (ਇਸ਼ਟ, ਅਖਾਣ, ਲੋਕਗੀਤ, ਵਿਰਾਸਤੀ ਖੇਡਾਂ, ਲੋਕ ਵਿਸ਼ਵਾਸ, ਮੇਲੇ, ਤਿਉਹਾਰ, ਗਿੱਧਾ, ਲੋਕ ਚਿਕਿਤਸਾ ਤੇ ਲੋਕਧਾਰਾ) ਬਾਰੇ ਪ੍ਰਸ਼ਨ (ਤਿੰਨਾਂ ਵਿਚੋਂ ਇਕ ਕਰਨਾ) | 5 ਅੰਕ |
| 2. | ‘ਪੰਜ-ਆਬ’ ਪੁਸਤਕ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਉੱਤਰ ਤਿੰਨ ਸਤਰਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) (ਅੱਠ ਵਿਚੋਂ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ) | 1 x 5= 5 ਅੰਕ |
| 3. | ਚਿੱਠੀ ਪੱਤਰ (ਦਫ਼ਤਰੀ, ਵਪਾਰਕ, ਸਮਾਜਕ ਤੇ ਸਭਿਆਚਾਰਕ ਮਸਲਿਆਂ ਬਾਰੇ ਸੰਪਾਦਕ ਨੂੰ ਪੱਤਰ) (ਦੋ ਵਿਚੋਂ ਇਕ) | 8 ਅੰਕ |
| 4. | ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਜਨਮ , ਵਿਕਾਸ ਤੇ ਵਰਤਮਾਨ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਕਰਨਾ) | 7 ਅੰਕ |
| 5. | ਵਿਆਕਰਨ :ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ (i) ਸ਼ਬਦ ਤੇ ਸ਼ਬਦ ਰਚਨਾ:ਪਰਿਭਾਸ਼ਾ ਤੇ ਵਰਗੀਕਰਨ, ਭਾਵੰਸ਼: ਬੰਦ ਤੇ ਖੁੱਲ੍ਹੇ ਭਾਵੰਸ਼, ਧਾਤੂ ਤੇ ਵਧੇਤਰ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ) | 6 ਅੰਕ |
| | (ii) ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਨੋਟ: ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਉਪਰੋਕਤ ਸੰਕਲਪਾਂ ਦੇ ਆਧਾਰ ਤੇ ਹੀ ਸੰਖੇਪ ਰੂਪ ਵਿਚ ਪੁੱਛੇ ਜਾਣ। (ਚਾਰ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਦੋ ਪ੍ਰਸ਼ਨ ਕਰਨੇ) | 2+2= 4 ਅੰਕ |

- ਨੋਟ: 1. ਟੈਕਸਟ ਲਈ ਹਫ਼ਤੇ ਦੇ ਛੇ ਪੀਰੀਅਡ।
2. ਕੰਪੋਜ਼ੀਸ਼ਨ ਲਈ 25-30 ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਗਰੁੱਪ ਅਤੇ ਹਫ਼ਤੇ ਦੇ ਤਿੰਨ ਹੋਰ ਪੀਰੀਅਡ।
3. ਹਫ਼ਤੇ ਦੇ 6+3 = 9 ਪੀਰੀਅਡ।

ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)
(ਸਿਰਫ਼ ਬੀ.ਏ. ਦੇ ਵਿਦਿਆਰਥੀਆਂ ਲਈ)
ਸਮੇਸਟਰ ਚੌਥਾ

ਕੁੱਲ ਅੰਕ: 50
ਲਿਖਤੀ: 45
ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ: 5
ਸਮਾਂ: 3 ਘੰਟੇ

ਪਾਠਕ੍ਰਮ

- | | | |
|----|--|--------|
| 1. | ਇਕਾਂਗੀ ਤੇ ਨਾਟਕ | 20 ਅੰਕ |
| 2. | ਪੈਰੋ ਦਾ ਅਨੁਵਾਦ (ਅੰਗਰੇਜ਼ੀ ਤੋਂ ਪੰਜਾਬੀ) | 8 ਅੰਕ |
| 3. | ਪੰਜਾਬੀ ਦੀਆਂ ਉਪਭਾਸ਼ਾਵਾਂ | 7 ਅੰਕ |
| 4. | ਵਿਆਕਰਨ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ | 10 ਅੰਕ |

ਕੋਰਸ

1. ਛੇ ਛੱਲਾਂ (ਸੰਪਾ.) ਡਾ.ਆਤਮਜੀਤ ਸਿੰਘ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ।
2. ਕੱਲਰ, ਸਵਰਾਜਬੀਰ, ਲੋਕਗੀਤ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ੍ਹ।

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

- | | | |
|----|--|-------------------------|
| 1. | (ੳ) ‘ਛੇ ਛੱਲਾਂ’ ਇਕਾਂਗੀ ਸੰਗ੍ਰਹਿ ਤੇ ‘ਕੱਲਰ’ ਨਾਟਕ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਦਾ ਵਿਸ਼ਾ ਦੱਸ ਕੇ ਸਾਰ ਲਿਖਣਾ (ਤਿੰਨ ਵਿਚੋਂ ਇਕ) | 4+6 =10 ਅੰਕ |
| | (ਅ) ‘ਛੇ ਛੱਲਾਂ’ ਤੇ ‘ਕੱਲਰ’ ਨਾਟਕ ਵਿਚੋਂ ਪਾਤਰ ਚਿਤਰਨ ਕਰਨਾ (ਤਿੰਨ ਵਿਚੋਂ ਇਕ) | 5 ਅੰਕ |
| 2. | ਇਕਾਂਗੀ ਸੰਗ੍ਰਹਿ ਤੇ ਨਾਟਕ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਉੱਤਰ ਤਿੰਨ ਸਤਰਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) (ਅੱਠਾਂ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਪੰਜ ਕਰਨੇ) | 1 x 5=5 ਅੰਕ |
| 3. | ਅੰਗਰੇਜ਼ੀ ਤੋਂ ਪੰਜਾਬੀ ਵਿੱਚ ਅਨੁਵਾਦ (ਲਗਭਗ 100 ਸ਼ਬਦਾਂ ਵਿਚ) | 8 ਅੰਕ |
| 4. | ਪੰਜਾਬੀ ਦੀਆਂ ਉਪਭਾਸ਼ਾਵਾਂ ਨੋਟ: ਉਪਭਾਸ਼ਾਵਾਂ ਉਪਰ ਸਵਾਲ ਸਿਰਫ਼ ਪੂਰਬੀ ਪੰਜਾਬੀ ਉਪਭਾਸ਼ਾਵਾਂ (ਮਾੜੀ, ਮਲਵਈ, ਦੁਆਬੀ ਤੇ ਪੁਆਧੀ ਨੂੰ ਆਧਾਰ ਬਣਾ ਕੇ ਹੀ ਪੁੱਛਿਆ ਜਾਵੇ। (ਦੋ ਵਿਚੋਂ ਇਕ) | 7 ਅੰਕ |
| 5. | ਵਿਆਕਰਨ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ (i) ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ : ਕੋਸ਼ਗਤ ਤੇ ਵਿਆਕਰਨਕ ਸ਼ਬਦ, ਵਿਕਾਰੀ ਤੇ ਅਵਿਕਾਰੀ ਸ਼ਬਦ, ਸਧਾਰਨ, ਸਮਾਸੀ ਤੇ ਮਿਸ਼ਰਤ, ਸ਼ਬਦ ਜੋੜਾਂ ਦੇ ਨੇਮ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਕਰਨਾ) (ii) ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਨੋਟ: ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ ਉਪਰੋਕਤ ਸੰਕਲਪਾਂ ਦੇ ਆਧਾਰ ਤੇ ਹੀ ਸੰਖੇਪ ਰੂਪ ਵਿਚ ਪੁੱਛੇ ਜਾਣ। (ਚਾਰ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਦੋ ਪ੍ਰਸ਼ਨ ਕਰਨੇ) | 6 ਅੰਕ 2+2= 4 ਅੰਕ |

ਸਹਾਇਕ ਪੁਸਤਕਾਂ:

1. ਪੰਜਾਬੀ ਸੰਚਾਰ ਯੋਗਤਾ ਅਭਿਆਸ, ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ।
 2. ਅਗਨੀਹੋਤਰੀ, ਵੇਦ, ਪਰਿਚਾਇਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਦੀਪਕ ਪਬਲਿਸ਼ਰਜ਼, ਜਲੰਧਰ, 1981.
 3. ਸੁਖਵਿੰਦਰ ਸਿੰਘ ਸੰਘਾ ਅਤੇ ਹੋਰ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਭਾਗ-ਪਹਿਲਾ, ਦੂਜਾ ਤੇ ਤੀਜਾ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ, ਜਲੰਧਰ, 1997.
 4. ਹਰਕੀਰਤ ਸਿੰਘ (ਡਾ.), ਕਾਲਜ ਪੰਜਾਬੀ ਵਿਆਕਰਨ , ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ, 1999
 5. ਧਾਲੀਵਾਲ, ਪ੍ਰੇਮ ਪ੍ਰਕਾਸ਼ ਸਿੰਘ (ਡਾ.) ਸਿਧਾਂਤਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ , ਮਦਾਨ ਪਬਲਿਕੇਸ਼ਨਜ਼, ਪਟਿਆਲਾ, 2002.
 6. ਬਰਾੜ, ਬੂਟਾ ਸਿੰਘ (ਡਾ.), ਪੰਜਾਬੀ ਵਿਆਕਰਨ, ਸਿਧਾਂਤ ਅਤੇ ਵਿਹਾਰ , ਚੇਤਨਾ ਪ੍ਰਕਾਸ਼ਨ ਲੁਧਿਆਣਾ, 2008.
 7. ਜੱਸਲ ਕਵਲਜੀਤ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੇ ਕੁਝ ਪੱਖ , ਰਵੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ, ਹਾਲ ਬਾਜ਼ਾਰ, ਅੰਮ੍ਰਿਤਸਰ, 2012.
 8. ਮਨਜੀਤ ਕੌਰ, **ਪੰਜਾਬੀ ਭਾਸ਼ਾ : ਵਰਤੋ ਤੇ ਬਣਤਰ**, ਲੋਕਗੀਤ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ੍ਹ।
- ਨੋਟ: 1. ਟੈਕਸਟ ਲਈ ਹਫ਼ਤੇ ਦੇ ਛੇ ਪੀਰੀਅਡ।
2. ਕੰਪੋਜੀਸ਼ਨ ਲਈ 25-30 ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਗਰੁੱਪ ਅਤੇ ਹਫ਼ਤੇ ਦੇ ਤਿੰਨ ਹੋਰ ਪੀਰੀਅਡ।
3. ਹਫ਼ਤੇ ਦੇ 6+3=9 ਪੀਰੀਅਡ।

HISTORY AND CULTURE OF PUNJAB**(For B.A. candidates only)****SEMESTER-III**

Objectives: To introduce the students to the history of the region during medieval times.
Pedagogy: Lectures, library work and discussions.

INSTRUCTIONS FOR THE PAPER –SETTER AND CANDIDATES: (FOR PAPER IN SEMESTER III AND IV)

- The syllabus has been divided into four Units.
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 10 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 5 short answer type questions carrying 5 marks i.e. 1 marks for each. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each Unit-IV in all. Each question will carry 10 marks.
- For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
The paper-setter must put note (2) in the question paper.
- One question from Unit-IV shall be set on the map.**

Explanation:

- Each essay type question would cover about one-third or one-half of a topic detailed in the syllabus.
- The distribution of marks for the map question would be as under:

| | | |
|------------------|---|---------|
| Map | : | 6 Marks |
| Explanatory Note | : | 4 Marks |

In case a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 06 places on map of 01 marks each and write explanatory note on any 02 of 02 marks each.

- The paper-setter would avoid repetition between different types of question within one question paper.

Paper: **HISTORY AND CULTURE OF PUNJAB 1200-C- 1700 A.D**

| | | |
|---------------------|---|---------|
| Max. Marks | : | 50 |
| Theory | : | 45 |
| Internal Assessment | : | 05 |
| Time | : | 3 Hours |

Unit-I

Society and Culture in Punjab during the Turko-Afghan rule
The Punjab under the Great Mughals
Guru Nanak : His teachings, concept of Langar and Sangat.

Unit-II

Salient features of the Bhakti movement

Main Features of Sufism in Punjab.

Development of Sikhism (1539-1581): Contribution of Guru Angad Dev, Guru Amar Das and Guru Ram Das for the development of Sikhism

Unit III

Transformation of Sikhism : Compilation of Adi-Granth; Martyrdom of Guru Arjan Dev

Guru Hargobind's New policy

Martyrdom of Guru Tegh Bahadur

Unit IV

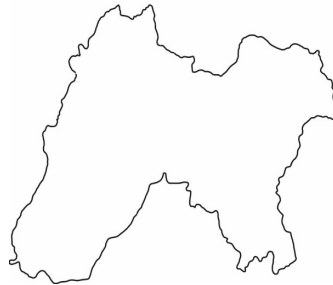
Foundation of the Khalsa

Post Khalsa activities of Guru Gobind Singh

MAP: Important Historical Places Delhi;Lahore;Sarhind; Multan;Kartarpur;Amritsar;Kiratpur;Tarn Taran; Anandpur Sahib; Fatehgarh Sahib; Paonta Sahib;Machhiwara;Muktsar.

Specimen Map for Examination:

Map for Practice

**Suggested Readings:**

1. Singh, Kirpal : *History and Culture of the Punjab*, Part II (Medieval Period), Publication Bureau, Punjabi University, Patiala, 1990 (3rd edn.).
- N.B. : The required detail and depth would conform to the treatment of the subject in the above survey. (This book will also form the basis of the short answer questions).
2. Singh, Fauja (ed.) : *History of the Punjab*, Vol. III, Punjabi University, Patiala, 1972.
 3. Grewal, J.S. : *The Sikhs of the Punjab*, The New Cambridge History of India, Orient Longman, Hyderabad, 1990.
 4. Singh, Khushwant : *A History of the Sikhs*, Vol. I : 1469-1839, Oxford University Press, Delhi, 1991.
 5. Chopra, P.N., Puri, B.N., and Das, M.N. : *A Social, Cultural & Economic History of India*, Vol. II, Macmillan, Delhi, 1974.
 6. Hussain, Yusuf : *Glimpses of Medieval Indian Culture*, Asia Publishing House, Bombay, 1973 (rep.).

HISTORY AND CULTURE OF PUNJAB
(For B.A. candidates only)
SEMESTER-IV

- Objectives:** To introduce the students to the history of the region in the later medieval period.
- Pedagogy:** Lectures, library work and discussions.

INSTRUCTIONS FOR THE PAPER –SETTER AND CANDIDATES: (FOR PAPER IN SEMESTER III AND IV)

The syllabus has been divided into four Units.

There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 10 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 5 short answer type questions carrying 5 marks i.e. 1 marks for each. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each Unit-IV in all. Each question will carry 10 marks.

For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

**The paper-setter must put note (2) in the question paper.
One question from Unit-IV shall be set on the map.**

Explanation:

Each essay type question would cover about one-third or one-half of a topic detailed in the syllabus. The distribution of marks for the map question would be as under:

| | | |
|------------------|---|---------|
| Map | : | 6 Marks |
| Explanatory Note | : | 4 Marks |

In case a paper setter chooses to set a question of map on important historical places, the paper setter will be required to ask the students to mark 06 places on map of 01 marks each and write explanatory note on any 02 of 02 marks each.

The paper-setter would avoid repetition between different types of question within one question paper.

| | |
|---------------|--|
| Paper: | HISTORY AND CULTURE OF PUNJAB 18TH AND EARLY 19TH CENTURIES |
| | Max. Marks : 50 |
| | Theory : 45 |
| | Internal Assessment : 05 |
| | Time : 3 Hours |

UNIT I

Banda Bahadur and his achievements
Sikh Struggle for Sovereignty from 1716-1765
Role of Dal Khalsa, Rakhi, Gurmata and Misls

UNIT- II

Ranjit Singh's rise to Power
Civil and Military administration
Relations with the British

UNIT-III

Political Developments 1839-1845
 Anglo-Sikh Wars
 Annexation of the Punjab

UNIT-IV

New Developments in literature, art and architecture in the Punjab region
 Social life with special reference to the position of women, fairs, festivals, folk music, dance and games in the Punjab.

MAP: Important Historical Places Lohgarh; Sarhind; Gujranwala; Lahore; Amritsar; Multan; Peshawar; Sialkot; Ferozepore; Ambala; Gujrat; Mudki; Ludhiana

Specimen Map for Examination:

Map for Practice

**Suggested Readings :**

Singh, Kirpal : *History and Culture of the Punjab*, Part II (Medieval Period), Publication Bureau, Punjabi University, Patiala, 1990 (3rd edn.).

N.B. : The required detail and depth would conform to the treatment of the subject in the above survey. (This book will also form the basis of the short answer questions).

Singh, Fauja (ed.) : *History of the Punjab*, Vol. III, Punjabi University, Patiala, 1972.

Grewal, J.S. : *The Sikhs of the Punjab*, The New Cambridge History of India, Orient Longman, Hyderabad, 1990.

Singh, Khushwant : *A History of the Sikhs*, Vol. I : 1469-1839, Oxford University Press, Delhi, 1991.

Chopra, P.N., Puri, B.N., and Das, M.N. : *A Social, Cultural & Economic History of India*, Vol. II, Macmillan, Delhi, 1974.

Hussain, Yusuf : *Glimpses of Medieval Indian Culture*, Asia Publishing House, Bombay, 1973 (rep.).

ENGLISH (Elective)**SEMESTER-III**

| | |
|-------------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 marks |
| Internal Assessment | : 10 |
| Time Allowed | : 3 hrs |
| Teaching hours per week | : 06 |

Objectives:

- To provide critically sensitive and analytical understanding of literary terms, concepts and genres to the students to develop their ability to appreciate and analyze different literary texts.
- To empower the students to read, analyze and write about a text in an independent manner.
- To enhance students ability to use grammatical conventions appropriately.
- To sharpen their writing skills to write clearly, coherently and cohesively.
- To enable the students to explore, discuss and express their views on various topics.
- To motivate the students to develop basic tools of analyzing a variety of literary texts.
- To enable them to have a comprehensive knowledge of English language and literature.
- To empower an average student in such a way that English learning becomes a pleasurable endeavour.

TEXT PRESCRIBED:

William Shakespeare: *The Merchant of Venice*

LITERARY TERMS:

Drama, Myth of Dionysus, Liturgical Drama, Miracle Plays, Mystery Plays, Interlude, Mimesis, Catharsis, Tragic Hero, Organic Unity, Revenge Tragedy, Poetic Drama, Verse Drama, Myth & Drama, Ritual & Drama, Yaksgana, Theory, Indian Theory of Drama, Puppetry, Ardhnarishwra.

TESTING SCHEME:**Section-A**

1. Five literary terms out of eight are to be attempted in about 50-60 words. 15 marks
2. Reference to the Context from the prescribed play. 15 marks
(The examiner will set three passages/stanzas from the prescribed play. The students will attempt any two out of these three.)
3. Long answer type question in about 300-350 words form the prescribed text. One out of two is to be attempted. 15 marks

Section - B

4. Dialogue writing
(The examiner will set one descriptive passage of about 300-400 words and ask the students to re-write the same in dialogue form. The examiner, however, must ensure that the passage can easily be converted into dialogue form.) 10 marks
5. Identifying figures of speech in sentences (unseen):
Simile, Metaphor, Alliteration, Assonance. 10 marks
(The examiner will set ten different lines with an instruction to identify the figure(s) of speech in each sentence. The sentences should be examples of different figures of speech as mentioned above. The students are required to answer all. There will be no choice.)
6. Grammar:
- i. Idioms and Phrases 5 marks
 - ii. Complete the incomplete sentences 5 marks
 - iii. One word substitution 5 marks
7. Comprehension (Unseen passage of about 1000 words) 10 marks
(The examiner will set an unseen passage of about 1000 word for comprehension. The passage will be followed by 5 questions to be answered in not more than 20-30 words each.)

ENGLISH (Elective)**SEMESTER IV**

| | | |
|-------------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 |
| Time Allowed | : | 3 hrs |
| Teaching hours per week | : | 06 |

Objectives:

- To provide critically sensitive and analytical understanding of literary terms, concepts and genres to the students to develop their ability to appreciate and analyze different literary texts.
- To empower the students to read, analyze and write about a text in an independent manner.
- To enhance students ability to use grammatical conventions appropriately.
- To sharpen their writing skills to write clearly, coherently and cohesively.
- To enable the students to explore, discuss and express their views on various topics.
- To motivate the students to develop basic tools of analyzing a variety of literary texts.
- To enable them to have a comprehensive knowledge of English language and literature.
- To empower average student in such a way that English learning becomes a pleasurable endeavour.

TEXT PRESCRIBED:**An Anthology of English Verse**

Ed. Department of English, Deen Dayal Upadhyaya, Gorakhpur University. New Delhi: OUP, 2004

Prescribed poems:

- i. John Donne: *The Sun Rising*
- ii. Alexander Pope: *From Essay on Man*
- iii. Thomas Gray: *Elegy Written in the Country Churchyard*
- iv. William Blake: *The Tiger*
- v. William Wordsworth: *Tintern Abbey*
- vi. John Keats: *Ode to a Nightingale*
- vii. Tennyson: *Ulysses*
- viii. Browning: *My Last Duchess*
- ix. Matthew Arnold: *To Marguerite*
- x. Hopkins: *Pied Beauty*
- xi. A. K. Ramanujan: *History*
- xii. W.B. Yeats: *A Prayer for my Daughter*
- xiii. T.S. Eliot: *Journey of the Magi*
- xiv. Thomas Hardy: *The Darkling Thrush*
- xv. Philip Larkin: *The Trees*

LITERARY TERMS:

Allegory, Allusion, Antithesis, Epic, Epithet, Hyperbole, Internal Rhyme, Rhyme Royal, Terza Rima Metaphor, Metonymy, Medias Res, Oxymoron, Mood, Tone, Personification, Stanza, Spenserian Stanza, Satire, Free paragraph

TESTING SCHEME:**Section-A**

1. Five literary terms out of eight are to be attempted in about 50-60 words. 15 marks
2. Short answer type question in about 50-60 words from the prescribed text. Five out of seven are to be attempted. 15 marks
3. Long answer type of questions in about 100-120 words from the prescribed text. Three out of five are to be attempted. 15 marks

Section – B

4. Precis Writing 10 marks
5. Identifying figures of speech in sentences (unseen)
Metonymy, Epithet, Oxymoron, Epigram, Metonymy 10 marks
(The examiner will set ten different lines with an instruction to identify the figure(s) of speech in each sentence. The sentences should be examples of different figures of speech as mentioned above. The students are required to answer all. There will be no choice.)
6. Grammar:
 - i. Choose the correct meaning of the word 5 marks
 - ii. Complete the incomplete sentences 5 marks
 - iii. One word substitution 5 marks
7. Comprehension (Unseen passage of about 1000 words) 10 marks
(The examiner will set an unseen passage of about 1000 word for comprehension. The passage will be followed by 5 questions to be answered in not more than 20-30 words each.)

हिंदी (ऐच्छिक द्वितीय वर्ष) सेमेस्टर-3

पूर्णांक : 90+10=100

समय : तीन घण्टे

1. तरंगिणी- मनोहर लाल आनंद, पंजाब विश्वविद्यालय पब्लिकेशन ब्यूरो, चंडीगढ़।
निम्नलिखित कवि पाठ्यक्रम में निर्धारित हैं-
मैथिलीशरण गुप्त, जयशंकर प्रसाद, सूर्यकांत त्रिपाठी निराला, सुमित्रानंदन पन्त
(क) 8 अंकों की एक सन्दर्भ सहित व्याख्या करनी होगी। अंक-08
कुल 2 सन्दर्भ पूछे जायेंगे।
(ख) कवि-परिचय, कविता-सार तथा उद्देश्य सम्बन्धी कुल दो प्रश्न पूछे जायेंगे। अंक-10
10 अंकों का एक ही प्रश्न करना होगा। प्रत्येक उत्तर की शब्द सीमा 200 होगी।
2. मिस्टर अभिमन्यु-डॉ॰ लक्ष्मीनारायण लाल, राजपाल एण्ड सन्ज, नई दिल्ली।
(क) सन्दर्भ सहित व्याख्या के लिए दो प्रश्न पूछे जायेंगे; उत्तर एक का ही देना होगा। अंक-05
(ख) पात्रों के चरित्र-चित्रण, तत्त्वों के आधार पर नाटक की समीक्षा तथा
समस्या सम्बन्धी दो प्रश्न पूछे जायेंगे। 8 अंकों का एक ही प्रश्न करना होगा। अंक-08
(शब्द-सीमा 200)
3. इस खण्ड में 3-3 अंकों के तीन लघुत्तरी प्रश्नों के उत्तर देने होंगे। अंक-09
कुल 6 प्रश्न पूछे जायेंगे। ये प्रश्न इस पत्र के पूर्वोक्त दो खण्डों
(तरंगिणी व मिस्टर अभिमन्यु) पर आधारित होंगे। शब्द सीमा (50)
4. हिंदी साहित्य का विकास : अंक-08
रीतिकाल : (केवल काव्य खण्ड) रीतिकाल की परिस्थितियाँ,
नामकरण, सीमा-निर्धारण, प्रवृत्तियाँ, रीतिबद्ध और रीतिमुक्त काव्य की विशेषताएँ,
प्रमुख कवि केशव, बिहारी, घनानंद, के सम्बन्ध में 8 अंकों का एक प्रश्न करना होगा।
कुल दो प्रश्न पूछे जायेंगे। (शब्द-सीमा 200-250)

5. वस्तुनिष्ठ प्रश्न अंक-10
इस पत्र के पूर्वोक्त तीनों खण्डों के आधार पर 1-1 अंक के दस वस्तुनिष्ठ प्रश्नों के उत्तर देने होंगे। कुल पन्द्रह प्रश्न पूछे जाएँगे।
6. समीक्षा सिद्धान्त- केवल 'नाटक' अंक-07
परिभाषा, तत्व और वर्गीकरण पर आधारित नाटक से संबंधित दो प्रश्न पूछे जायेंगे। जिनमें से 7 अंकों का एक प्रश्न करना होगा। (शब्द सीमा 200)
7. व्यावहारिक व्याकरण- अंक-15
क) समाकृति, भिन्नार्थक शब्द-युग्म 3) (चार में से तीन)
ख) स्वर-सन्धि एवं व्यंजन-संधि 3)
ग) सन्धि-विच्छेद(केवल व्यावहारिक) 3) (चार में से तीन)
घ) वाक्य-शोधन 3) (चार में से तीन)
ड.) विराम-चिह्न 3)
8. तकनीकी शब्दावली (केवल प्रशासकीय शब्दावली) अंक-10
(सलंगन शब्दावली)
15 में से 10 का उत्तर देना होगा।
- आंतरिक मूल्यांकन- अंक-10
निर्देश :-छह लेक्चर Text के और तीन लेक्चर व्याकरण के अनिवार्य होंगे।

प्रशासनिक शब्दावली

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|----------------------------|----------------------------------|
| 1. Acceptance | स्वीकृति |
| 2. Account | लेखा, खाता, हिसाब |
| 3. Accuse | अभियोग लगाना |
| 4. Acknowledge (fact etc.) | अभिस्वीकार करना, मानना कबूल करना |
| 5. Acknowledgement due | रसीद, पावती सहित |
| 6. Addressee | पाने वाला |
| 7. Adjournment | स्थगन |
| 8. Administration | प्रशासन |

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| 9. | Admissible | ग्राह्य, स्वीकार्य |
| 10. | Affidavit | शपथ लेना, हलफनामा |
| 11. | Agent | अभिकर्ता, एजेन्ट |
| 12. | Agitation | आन्दोलन |
| 13. | Agreement | करार, अनुबंध, सहमति |
| 14. | Allowance | भत्ता |
| 15. | Amenity | सुख-सुविधा |
| 16. | Anti-Corruption Officer | भ्रष्टाचार निरोध अधिकारी |
| 17. | Appeal | अपील, अपील करना |
| 18. | Appointment | नियुक्ति |
| 19. | Appoint | नियुक्ति करना |
| 20. | Approval | अनुमोदन |
| 21. | Article | अनुच्छेद, नियम, वस्तु |
| 22. | Association | संघ, समाज, संगम |
| 23. | At Par | सममूल्य पर |
| 24. | Attendant | परिचर |
| 25. | Attestation | साक्ष्यांकन, अनुप्रमाणन |
| 26. | Audit | लेखा परीक्षा |
| 27. | Ballot Paper | मतपत्र, मतपर्ची |
| 28. | Ban | प्रतिबंध, रोक, पाबंदी |
| 29. | Bonafide | सद्भावी, वास्तविक, असली |
| 30. | Book –Fair | पुस्तक मेला |
| 31. | Bureau | कार्यालय, ब्यूरो |
| 32. | Cabinet | मंत्री मंडल |
| 33. | Candidate | अभ्यर्थी, प्रार्थी, उम्मीदवार |
| 34. | Care-taker | रखवाला, अवधायक |
| 35. | Cashier | रोकड़िया |
| 36. | Censure | निंदा प्रस्ताव, परिनिंदा |
| 37. | Certificate of Medical Fitness | आरोग्य प्रमाण-पत्र |
| 38. | Character Certificate | चरित्र प्रमाण-पत्र |
| 39. | Charge Sheet | आरोप पत्र, फर्द, जुर्म |
| 40. | Circular | परिपत्र, गशती-चिट्ठी |
| 41. | Circulation of Traffic | यातायात परिचालन |
| 42. | Circus | क्रीड़ा रंग, रंगमंडप |
| 43. | Citation | प्रशस्ति, उद्धरण, अनुलेखन |
| 44. | City Booking Office | नगर टिकट घर, नगर बुकिंग-कार्यालय |

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| 45. | City Compensatory Allowance | नगर भत्ता |
| 46. | Civil | नागरिक |
| 47. | Civil Pole | नगर निर्वाचन |
| 48. | Civil Sense | नागरिक भावना |
| 49. | Civil-air-craft | असैनिक वायुयान |
| 50. | Claimant | दावेदार, दावी |
| 51. | Collector | समाहर्ता, संग्रहक, संकलनकर्ता, कलेक्टर |
| 52. | Colony | बस्ती, उपनिवेश |
| 53. | Colossal | विशाल, वृहत्काय |
| 54. | Colour Blindness | वर्णान्धता |
| 55. | Communique | विज्ञप्ति |
| 56. | Complaint | शिकायत |
| 57. | Complementary | पूरक |
| 58. | Completion Report | समापन रिपोर्ट |
| 59. | Certified Copy | प्रमाणित प्रतिलिपि |
| 60. | Complementary Copy | उपहार प्रति, मानार्थ प्रति |
| 61. | Composite | मिला जुला, सम्मिश्रण संशिष्ट |
| 62. | Comprehension | व्यापक कार्य बोध |
| 63. | Contingencies | आकस्मिक व्यय |
| 64. | Contractor | ठेकदार, संविदाकार |
| 65. | Confiscate | जब्त करना, अधिहरण करना |
| 66. | Corporation | निगम |
| 67. | Custody | अभिरक्षा |
| 68. | Decorum | शिष्टता, शालीनता |
| 69. | Defacto | वस्तुतः |
| 70. | Defaulter | त्रुटिकारी, चूक करने वाला, बाकीदार |
| 71. | Defendant | प्रतिवादी |
| 72. | Depreciation Charge | मूल्यङ्कास प्रभार, अवक्षय प्रभार |
| 73. | Design | अभिकल्प, अभिकल्पना, रूपांकन, डिज़ाइन |
| 74. | Dispatch | प्रेषण, रवानगी, प्रेषित करना, रवाना करना |
| 75. | Dignitary | उच्च पदधरी, महिमाम्बित |
| 76. | Director | निदेशक |
| 77. | Disbursement | संवितरण |
| 78. | Discipline | अनुशासन |
| 79. | Discrepancy | विसंगति, गलती |
| 80. | Discretion | विवेक, विवेकाधिकार |

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| 81. | Dissent | विसम्मति, असहमति |
| 82. | Disqualified | अयोग्य |
| 83. | Division | विभाजन, मंडल, श्रेणी, प्रभाग, डिवीजन |
| 84. | Eligible | पात्रता, प्राप्त, पात्र |
| 85. | Emergency | आपात, आपात्-स्थिति, आपत्तिक |
| 86. | Emigrant | उत्प्रवासी |
| 87. | Employment | रोजगार, नौकरी, नियोजन |
| 88. | Employment Exchange | रोजगार कार्यालय, रोजगार दफतर |
| 89. | Employment Officer | रोजगार अधि कारी |
| 90. | Enquiry | पूछताछ, जाँच |
| 91. | Enrolment Number | नामांकन संख्या |
| 92. | Enrolled | नामांकित |
| 93. | Evacuee | निष्क्रान्त |
| 94. | Executive Engineer | कार्यपालक अभियन्ता, कार्यपाल इंजीनियर |
| 95. | Faculty | संकाय |
| 96. | Finance | वित्त, रूपया लगाना |
| 97. | Gazetted Officer | राजपत्रित अधिकारी |
| 98. | Gazetteer | राजविवरणिका |
| 99. | Gazetted post | राजपत्रित पद |
| 100. | Grant | अनुदान, स्वीकार करना |
| 101. | Incentive | प्रोत्साहन |
| 102. | Index | सूचक, अनुक्रमणी |
| 103. | Initials | आद्यक्षर |
| 104. | Insured Letter | बीमा किया हुआ पत्रा |
| 105. | Interim | अन्तरिम |
| 106. | Intelligence | गुप्तवार्ता, आसूचना |
| 107. | Intelligentia | प्रबुद्ध वर्ग, बुद्धिजीवी वर्ग |
| 108. | Intensive reading | गहन पठन |
| 109. | Intention | अभिप्राय, आशय |
| 110. | Judgment | निर्णय |
| 111. | Jurisdiction | अधिकार- क्षेत्र |
| 112. | Ledger | खाता |
| 113. | Lessee | पट्टेदार |
| 114. | Liaison Officer | संपर्क अधिकारी |
| 115. | Maintenance | अनुरक्षण, भरण-पोषण, रख-रखाव |
| 116. | Major | व्यस्क, बालिग, मेजर, प्राप्त्य |

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| 117. | Manager | प्रबंधक, व्यवस्थापक, मैनेजर |
| 118. | Minor | अवस्यक, नाबालिग, अप्राप्तव्य |
| 119. | Monopoly | एकाधिकारी, एकाधिपत्य |
| 120. | Motion | प्रस्ताव |
| 121. | Nationalization | राष्ट्रीयकरण |
| 122. | Negotiation | संधिवार्ता, समझौते की बातचीत |
| 123. | Note of Dissent | विसन्मति लेख, असहमति लेख |
| 124. | Notification | अधिसूचना |
| 125. | Oath Commissioner | शपथ आयुक्त |
| 126. | Offender | अपराधी |
| 127. | Permissible | अनुभेय, अनुज्ञेय, क्षम्य |
| 128. | Planning Commission | योजना आयोग |
| 129. | Precedence | पूर्वता, अग्रता |
| 130. | Procedure | कार्यविधि |
| 131. | Public | सार्वजनिक, आम, सरकारी, लोक |
| 132. | Quorum | गणपूर्ति, कोरम |
| 133. | Receipt | पावती, प्राप्ति रसीद |
| 134. | Recruitment | भर्ती |
| 135. | Receiver | पानेवाला |
| 136. | Reminder | स्मरण-पत्र |
| 137. | Representative | प्रतिनिधि |
| 138. | Senior | वरिष्ठ, ज्येष्ठ |
| 139. | Sine die | अनिश्चित काल के लिए |
| 140. | Statutory | कानुनी, विधिक, संविधिक |
| 141. | Stenographer | आशुलिपिक |
| 142. | Subordinate | अधीन, अधीनस्थ |
| 143. | Tender | निविदा, टेंडर |
| 144. | Transfer | बदली, स्थानांतरण, अंतरण |
| 145. | Treasurer | कोषपाल |
| 146. | Unofficial | अशासकीय |
| 147. | Vacancy | रिक्ति |
| 148. | Vigilance Officer | सतर्कता अधिकारी, निगरानी अधिकारी |
| 149. | Warrant | अधिपत्र, वारंट |

हिंदी (ऐच्छिक द्वितीय वर्ष)
सेमेस्टर-4

पूर्णांक : 90+10=100

समय : तीन घण्टे

1. तरंगिणी- मनोहर लाल आनंद, पंजाब विश्वविद्यालय पब्लिकेशन ब्यूरो, चंडीगढ़।
निम्नलिखित कवि पाठ्यक्रम में निर्धारित हैं-
महादेवी वर्मा, अज्ञेय, धर्मवीर भारती।
 - (क) 8 अंकों की एक सन्दर्भ सहित व्याख्या करनी होगी। कुल 2 सन्दर्भ पूछे जायेंगे। अंक-8
 - (ख) कवि-परिचय, कविता-सार तथा उद्देश्य सम्बन्धी कुल दो प्रश्न पूछे जायेंगे। अंक-10
10 अंकों का एक ही प्रश्न करना होगा। प्रत्येक उत्तर की शब्द सीमा 200 होगी।
2. आदर्श एकांकी संग्रह- सम्पादक डॉ॰ संसार चन्द्र, पंजाब विश्वविद्यालय पब्लिकेशन ब्यूरो
चंडीगढ़ द्वारा प्रकाशित।
 - (क) एकांकी के तत्त्वों के आधार पर समीक्षात्मक प्रश्न अंक-8
(सार-लेखन, चरित्र-चित्रण, उद्देश्य सम्बन्धी) दो प्रश्न पूछे जायेंगे।
8 अंकों का एक प्रश्न करना होगा।
 - (ख) संदर्भ सहित व्याख्या नहीं पूछी जाएगी।
3. हिंदी साहित्य का इतिहास : आधुनिक काल (केवल काव्य-खण्ड)
आधुनिक काल के भारतेंदु-युग, द्विवेदी युग, छायावाद, प्रगतिवाद अंक-10
प्रयोगवाद और नई कविता की केवल प्रमुख प्रवृत्तियों से सम्बंधित
10 अंकों का एक प्रश्न करना होगा। कुल दो प्रश्न पूछे जायेंगे। (शब्द-सीमा 250)
4. वस्तुनिष्ठ प्रश्न अंक-10
इस पत्र के पूर्वोक्त तीन खण्डों के आधार पर एक-एक अंक के दस वस्तुनिष्ठ प्रश्न करने होंगे।
कुल पन्द्रह प्रश्न पूछे जायेंगे।

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| 5. | संलग्न 50 टिप्पणियों का अभ्यास : पूछी गई दस टिप्पणियों में से पाँच का उत्तर देना होगा । | अंक-10 |
| 6. | समीक्षा सिद्धान्त : केवल 'एंकाकी' एकांकी के तत्व, परिभाषा और वर्गीकरण से संबंधित दो प्रश्न पूछे जाएँगे। 10 अंको का केवल एक प्रश्न करना होगा। (शब्द-सीमा 250) | अंक-10 |
| 7. | सार लेखन | अंक-8 |
| 8. | शासकीय पत्र लेखन (दो में से एक) | अंक-8 |
| 9. | विस्तारण | अंक-8 |
| | आंतरिक मूल्यांकन | अंक-10 |

निर्देश : 6 लेक्चर Text के और 3 लेक्चर व्याकरण के अनिवार्य होंगे।

50 टिप्पणियाँ

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| 1. | A brief note is placed below | संक्षिप्त टिप्पणी नीचे प्रस्तुत है । |
| 2. | Acknowledge receipt of this | इसकी पावती भेजिए । |
| 3. | Action as proposed may be taken | यथा प्रस्तावित कार्यवाही की जाए । |
| 4. | Agenda of the meeting is put up | बैठक की कार्यसूची प्रस्तुत है । |
| 5. | Application may be rejected | आवेदन अस्वीकार कर दिया जाए । |
| 6. | Approved as proposed | प्रस्ताव के अनुसार अनुमोदित |
| 7. | Administrative approval may be obtained | प्रशासनिक अनुमोदन प्राप्त किया जाए । |
| 8. | Await reply | उत्तर की प्रतीक्षा करें । |
| 9. | Await further report | और विवरण की प्रतीक्षा करें । |
| 10. | Ascertain this position please | कृपया स्थिति का पता लगायें । |
| 11. | Amended draft is submitted for approval | संशोधित प्रारूप अवलोकनार्थ प्रस्तुत हैं । |
| 12. | Brief resume of the case is given below | मामले का संक्षिप्त सार नीचे दिया गया है । |
| 13. | Call for explanation | स्पष्टीकरण माँगे |
| 14. | Call for report | रिपोर्ट माँगवाए । |
| 15. | Comply with the orders | आदेशों का पालन करें । |
| 16. | Clarify the position please | कृपया स्थिति का स्पष्ट करें । |
| 17- | Copy enclosed for ready reference | सुलभ संदर्भ के लिए प्रतिलिपि संलग्न है । |
| 18. | Copy is enclosed | प्रतिलिपि संलग्न है । |

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| 19. | Copy forwarded for information and Necessary action | प्रतिलिपि सूचनार्थ एवं आवश्यक कार्यवाही के लिए प्रेषित है । |
| 20. | Case may be kept pending | मामले को अभी अनिर्णीत रखा जाए । |
| 21. | Delay should be avoided | विलम्ब न किया जाए । |
| 22. | Disciplinary proceedings may be initiated | आनुशासनिक कार्यवाही शुरू की जाए । |
| 23. | Draft reply is put up | उत्तर का मसौदा प्रस्तुत है |
| 24. | Enquiry may be conducted | जाँच की जाएं |
| 25. | Expedite action | शीघ्र कार्यवाही करें । |
| 26. | Explanation may be called for | स्पष्टीकरण माँगा जाए । |
| 27. | Facts for the case may be put up | मामलों के तथ्य प्रस्तुत करें । |
| 28. | For perusal and return | देखकर लौटाने के लिए |
| 29. | For comments please | कृपया टिप्पणी दें । |
| 30. | For sympathetic consideration | सहानुभूतिपूर्ण विचार के लिए । |
| 31. | Forwarded and recommended | प्रेषित और संस्तुत । |
| 32. | I concur with the proposal | मैं इस प्रस्ताव से अपनी सहमति प्रकट करता हूँ । |
| 33. | I have no remarks to offer | मुझे कोई टिप्पणी नहीं करनी है । |
| 34. | Inform all concerned | सभी संबंधित व्यक्तियों को सूचित करें । |
| 35. | Issue a circular | परिपत्र जारी करें । |
| 36. | Keep pending | निर्णय के लिए रोक रखें । |
| 37. | Kindly accord sanction | कृपया स्वीकृति दीजिए । |
| 38. | Kindly confirm | कृपया पुष्टि करें । |
| 39. | Matter is under consideration | मामला विचाराधीन है । |
| 40. | No action is necessary | कोई कार्यवाही अपेक्षित नहीं है । |
| 41. | Needful has been done | आवश्यक कार्यवाही की गई है । |
| 42. | Order may be issued | आदेश जारी किया जाए । |
| 43. | Please see the proceeding notes | कृपया पिछली टिप्पणियाँ देख लें । |
| 44. | Put up the relevant papers | संबंधित कागज प्रस्तुत करें । |
| 45. | Reminder may be sent | अनुस्मारक भेजा जाए । |
| 46. | Report compliance immediately | अनुपालन करके तुरन्त सूचित करें । |
| 47. | Specific reason may be given | विशिष्ट कारण दिया जाए । |
| 48. | Submitted for information | सूचना के लिए प्रस्तुत है । |
| 49. | This may be treated as confident | इसे गोपनीय समझा जाए । |
| 50. | Verified and found correct | जाँचा और सही पाया । |

ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)
ਬੀ.ਏ. (ਜਨਰਲ) ਭਾਗ ਦੂਜਾ, ਦਸੰਬਰ 2023 ਦੇ ਇਮਤਿਹਾਨ ਲਈ
ਸਮੈਸਟਰ ਤੀਜਾ

ਕੁੱਲ ਅੰਕ : 100
ਲਿਖਤੀ : 90
ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ : 10
ਸਮਾਂ : 3 ਘੰਟੇ

ਪਾਠਕ੍ਰਮ

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| 1. | ਮੱਧਕਾਲ ਦੀ ਚੋਣਵੀਂ ਕਵਿਤਾ | 25 ਅੰਕ |
| 2. | ਸਫ਼ਰਨਾਮੇ ਦਾ ਅਧਿਐਨ | 25 ਅੰਕ |
| 3. | ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ | 20 ਅੰਕ |
| 4. | ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ | 10 ਅੰਕ |
| 5. | ਭਾਸ਼ਾ ਵਿਗਿਆਨ | 10 ਅੰਕ |

ਕੋਰਸ

1. **ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਰੰਗ** (ਸੰਪਾ.), ਡਾ. ਯੋਗ ਰਾਜ ਅੰਗਰਿਸ਼, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ।
(ਨਿਰਧਾਰਤ ਕਵੀ: ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਜੀ, ਗੁਰੂ ਅਰਜਨ ਦੇਵ ਜੀ, ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਜੀ, ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਜੀ, ਭਗਤ ਕਬੀਰ ਅਤੇ ਭਗਤ ਰਵਿਦਾਸ)
2. **ਦੁਨੀਆਂ ਇਕ ਮਹਿਲ ਹੈ**, ਗੁਰਬਖ਼ਸ਼ ਸਿੰਘ, ਕਸਤੂਰੀ ਲਾਲ ਐਂਡ ਸੰਨਜ, ਅੰਮ੍ਰਿਤਸਰ

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

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| 1. | (ੳ) ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਰੰਗ ਪੁਸਤਕ ਵਿਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |
| | (ਅ) ਕਾਵਿ ਪੁਸਤਕ ਵਿਚੋਂ ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ-ਵਸਤੂ/ ਥੀਮ ਸਪਸ਼ਟ ਕਰਨਾ (ਦੋ ਵਿਚੋਂ ਇਕ) | 15 ਅੰਕ |
| 2. | (ੳ) ਦੁਨੀਆਂ ਇਕ ਮਹਿਲ ਹੈ ਸਫ਼ਰਨਾਮਾ ਪੁਸਤਕ ਦੇ ਆਧਾਰ ਪ੍ਰਮੁੱਖ ਥਾਂਵਾਂ ਤੇ ਘਟਨਾਵਾਂ ਦੇ ਵੇਰਵੇ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇਕ) | 15 ਅੰਕ |
| 3. | ਕਾਵਿ ਸੰਗ੍ਰਹਿ ਤੇ ਸਫ਼ਰਨਾਮੇ ਵਿਚੋਂ ਲਘੂ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਅੱਠ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਪੰਜ) (ਪ੍ਰਸ਼ਨ ਦਾ ਉੱਤਰ ਤਿੰਨ-ਚਾਰ ਸਤਰਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) | 2×5=10 ਅੰਕ |
| 4. | ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (ਗੁਰਮਤਿ ਕਾਵਿ ਤੇ ਭਗਤੀ ਕਾਵਿ) (ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ) (ਛੇ ਵਿਚੋਂ ਚਾਰ - ਉੱਤਰ 50 ਸ਼ਬਦਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) | 5×4=20 ਅੰਕ |
| 5. | ਭਾਰਤੀ ਕਾਵਿ-ਸ਼ਾਸਤਰ: (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ), ਰਸ ਸੰਪ੍ਰਦਾਇ, ਵਕ੍ਰੋਕਤੀ ਸੰਪ੍ਰਦਾਇ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ) | 10 ਅੰਕ |
| 6. | ਭਾਸ਼ਾ ਵੰਨਗੀਆਂ: ਟਕਸਾਲੀ ਭਾਸ਼ਾ, ਵਿਅਕਤੀ ਭਾਸ਼ਾ, ਅਪਭਾਸ਼ਾ, ਗੁਪਤ ਭਾਸ਼ਾ, ਰਜਿਸਟਰ, ਪਿਜ਼ਨ ਤੇ ਕ੍ਰਿਓਲ (ਚਾਰ ਵਿਚੋਂ ਦੋ) | 10 ਅੰਕ |

ਵਿਸ਼ੇਸ਼ ਨੋਟ: ਸਮੁੱਚੇ ਪਾਠਕ੍ਰਮ ਲਈ ਹਫ਼ਤੇ ਵਿਚ 6+6= 12 ਪੀਰੀਅਡ।

ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)
ਬੀ.ਏ. (ਜਨਰਲ) ਭਾਗ ਦੂਜਾ, ਅਪ੍ਰੈਲ/ ਮਈ 2024 ਦੇ ਇਮਤਿਹਾਨ ਲਈ
ਸਮੈਸਟਰ ਚੌਥਾ

ਕੁੱਲ ਅੰਕ : 100
ਲਿਖਤੀ : 90
ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ : 10
ਸਮਾਂ : 3 ਘੰਟੇ

ਪਾਠਕ੍ਰਮ

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| 1. | ਮੱਧਕਾਲ ਦੀ ਚੋਣਵੀਂ ਕਵਿਤਾ | 25 ਅੰਕ |
| 2. | ਕਹਾਣੀ ਸੰਗ੍ਰਹਿ | 25 ਅੰਕ |
| 3. | ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ | 20 ਅੰਕ |
| 4. | ਸਾਹਿਤ ਆਲੋਚਨਾ | 10 ਅੰਕ |
| 5. | ਉਪਭਾਸ਼ਾ ਵਿਗਿਆਨ | 10 ਅੰਕ |

ਕੋਰਸ

1. **ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਰੰਗ** (ਸੰਪਾ.), ਡਾ. ਯੋਗ ਰਾਜ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ।
(ਨਿਰਧਾਰਤ ਕਵੀ: ਸ਼ੇਖ ਫਰੀਦ, ਸੁਲਤਾਨ ਬਾਹੂ, ਸ਼ਾਹ ਹੁਸੈਨ, ਬੁੱਲ੍ਹੇ ਸ਼ਾਹ, ਦਮੋਦਰ, ਪੀਲੂ)
2. **ਕਥਾ-ਪ੍ਰਵਾਹ** (ਸੰਪਾ.) ਸੁਰਿੰਦਰ ਕੁਮਾਰ ਦਵੇਸ਼ਵਰ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ।

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

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| 1. | (ੳ) ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਰੰਗ ਪੁਸਤਕ ਵਿਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |
| | (ਅ) ਨਿਰਧਾਰਤ ਕਾਵਿ-ਪੁਸਤਕ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਕਾਵਿ-ਬੰਦ ਦੀ ਵਿਹਾਰਕ ਸਮੀਖਿਆ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |
| 2. | (ੳ) ਕਥਾ-ਪ੍ਰਵਾਹ ਪੁਸਤਕ ਵਿਚੋਂ ਘਟਨਾਵਾਂ, ਥੀਮ, ਪਾਤਰ ਚਿਤਰਨ ਤੇ ਕਥਾ ਜੁਗਤਾਂ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ (ਦੋ ਵਿਚੋਂ ਇਕ) | 10 ਅੰਕ |
| | (ਅ) ਕਹਾਣੀ ਸੰਗ੍ਰਹਿ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਕਹਾਣੀ ਦੀ ਸਾਹਿਤਕ ਪਰਖ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਕਰਨਾ) | 10 ਅੰਕ |
| 3. | ਕਾਵਿ ਸੰਗ੍ਰਹਿ ਤੇ ਕਹਾਣੀ ਸੰਗ੍ਰਹਿ ਵਿਚੋਂ ਲਘੂ ਉਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਅੱਠ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਪੰਜ) (ਪ੍ਰਸ਼ਨ ਦਾ ਉਤਰ ਤਿੰਨ-ਚਾਰ ਸਤਰਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) | 2×5=10 ਅੰਕ |
| 4. | ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (ਸੂਫੀ ਕਾਵਿ ਤੇ ਕਿੱਸਾ ਕਾਵਿ) (ਸੰਖੇਪ ਉਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ) | 5×4=20 ਅੰਕ |
| | (ਛੇ ਵਿਚੋਂ ਕੋਈ ਚਾਰ-ਉਤਰ 50 ਸ਼ਬਦਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ) | |
| 5. | ਸਾਹਿਤ ਆਲੋਚਨਾ: ਸਾਹਿਤ ਤੇ ਸਮਾਜ, ਸਾਹਿਤ ਤੇ ਸਖਸ਼ੀਅਤ, ਸਾਹਿਤ ਤੇ ਸ਼ੈਲੀ, ਸਾਹਿਤ ਤੇ ਮਨੋਵਿਗਿਆਨ, ਸਾਹਿਤ ਤੇ ਵਿਗਿਆਨ (ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਇਕ ਕਰਨਾ) | 10 ਅੰਕ |
| 6. | ਉਪਭਾਸ਼ਾ ਵਿਗਿਆਨ : ਉਪਭਾਸ਼ਾ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਭਾਸ਼ਾ ਤੇ ਉਪਭਾਸ਼ਾ, ਉਪਭਾਸ਼ਾ ਦੀਆਂ ਪਛਾਣ ਵਿਧੀਆਂ। | 10 ਅੰਕ |

ਸਹਾਇਕ ਪੁਸਤਕਾਂ :

1. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (1701-1900), ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ੍ਹ।
 2. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (1701-1900), ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
 3. ਪਰਮਿੰਦਰ ਸਿੰਘ ਤੇ ਕਿਰਪਾਲ ਸਿੰਘ ਕਸੇਲ, 'ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੀ ਉਤਪਤੀ ਤੇ ਵਿਕਾਸ', ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
 4. ਸਿੱਧੂ, ਪਰਮਜੀਤ ਸਿੰਘ (ਡਾ.), ਮਾਨਵ ਵਿਗਿਆਨਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 1998.
 5. ਸੰਘਾ, ਸੁਖਵਿੰਦਰ ਸਿੰਘ (ਸੰਪਾ.), ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਕਾਦਮੀ, ਜਲੰਧਰ
 6. ਆਚੂਜਾ, ਰੋਥਨ ਲਾਲ, (ਡਾ.), ਸਾਹਿਤ ਸ਼ਾਸਤਰ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ
 7. ਧਾਲੀਵਾਲ, ਪ੍ਰੇਮ ਸਿੰਘ (ਡਾ.), ਰੂਪ ਵਿਗਿਆਨ ਅਤੇ ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ, ਮਦਾਨ ਪਬਲੀਕੇਸ਼ਨਜ਼, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2002.
 8. ਉਹੀ, 'ਸਿਧਾਂਤਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ', ਮਦਾਨ ਪਬਲੀਕੇਸ਼ਨਜ਼, ਪਟਿਆਲਾ, 2002
 9. ਬਰਾੜ, ਬੂਟਾ ਸਿੰਘ (ਡਾ.), 'ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਸ਼੍ਰੋਤ ਤੇ ਸਰੂਪ', ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਉਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ 2012.
 10. ਜੋਸ਼ੀ, ਜੀਤ ਸਿੰਘ, ਪੰਜਾਬੀ ਅਧਿਐਨ ਤੇ ਅਧਿਆਪਨ ਬਦਲਦੇ ਪਰਿਪੇਖ, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਉਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ
- ਵਿਸ਼ੇਸ਼ ਨੋਟ: ਸਮੁੱਚੇ ਪਾਠਕ੍ਰਮ ਲਈ ਹਫ਼ਤੇ ਵਿਚ 6+6= 12 ਪੀਰੀਅਡ।

संस्कृत (इलैक्टिव)

बी.ए.(जनरल) द्वितीय वर्ष

SEMESTER-III

Paper - Sanskrit :

श्रीमद्भगवद्गीता एवं व्याकरण
(आन्तरिक परीक्षा- 10, लिखित परीक्षा- 90)

पूर्णांक: 90+10=100

समय-3 घण्टे

निर्देश तथा उद्देश्य-

- प्रश्नपत्र का माध्यम हिन्दी होगा। उत्तरों का माध्यम संस्कृत, हिन्दी, पंजाबी या अंग्रेजी में से कोई एक भाषा होगी।
- विद्यार्थियों को भारतीय दर्शन के अद्वितीय ग्रन्थ रत्न श्रीमद्भगवद्गीता (चतुर्थ अध्याय) में प्रतिपादित निष्काम कर्मयोग, समत्व योग में स्थित योगी पुरुषों का आचरण एवं उनकी महिमा, विभिन्न प्रकार के ज्ञानयज्ञ तथा ज्ञान का महत्त्व इत्यादि विषयों का अध्ययन करवाना।
- इसके अतिरिक्त व्यावहारिक शब्दावली द्वारा विद्यार्थियों की संस्कृत के प्रति रुचि जागृत करना।
- संस्कृत पूर्ण वैज्ञानिक एवं व्याकरणनिष्ठ भाषा है। अतः विद्यार्थियों को संस्कृत व्याकरण के प्रमुख नियमों का बोध कराना।
- पत्र का अध्ययन समय नौ पीरियड(प्रतिघण्टा) प्रतिसप्ताह होगा, जिसमें तीन पीरियड कम्पोजिशन के होंगे।
- सभी प्रश्नों में शतप्रतिशत अथवा निर्दिष्ट विकल्प आवश्यक हैं।

UNIT-I

(क) गीता (चतुर्थ - अध्याय) (दो सूक्ति/श्लोक : सप्रसंग अनुवाद एवम् व्याख्या)

2x10= 20 अंक

(ख) गीता (चतुर्थ अध्याय) पर आधारित समीक्षात्मक लघुप्रश्न

05 अंक

UNIT-II

(ग) व्यावहारिक संस्कृत शब्दावली : वस्त्र, आभूषण एवं शृंगारपरक (15 में से 10 शब्दों की संस्कृत) 10x 1 = 10 अंक

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|----------------------------------|---------------------------|---------------------------------|
| 1. कंबल-कम्बलः | 2. कुरता-कञ्चुकः | 3. कोट-प्रावारः |
| 4. चादर-प्रच्छदः, शय्याच्छादनम् | 5. जूता-उपानत् | 6. तकिया-उपधानम् |
| 7. दरी-आस्तरणम् | 8. दुपट्टा-उत्तरीयम् | 9. धोती-अधोवस्त्रम्, |
| 10. पगडी-शिरस्त्रम् उष्णीकम् | 11. परदा-यवनिका | 12. पायजामा-पादयामः |
| 13. पैट-आप्रपदीनम् | 14. रुमाल-करवस्त्रम् | 15. शेरवानी-प्रावारकम् |
| 16. साडी-साटिका | 17. स्वेटर-उर्णावरकम् | 18. कपडा-वस्त्रम्, वसनम्, चीरम् |
| 19. अंगूठी-अङ्गुलीयकम्, मुद्रिका | 20. कंगना-कंकणः | 22. कान की बाली-कुण्डलम् |
| 22. गहना-अलङ्कारः, आभरणम् | 23. घुंघरू -किंकिणी | 24. चूडी-काचवलयः, काचवलयम् |
| 25. नथ-छोलिका | 26. पाजेब-नूपुरः, नूपुरम् | 27. बाजूबंद (ब्रेस लेट)-केयूरम् |
| 28. हार-हारः | 29. सोने का कडा-कटकः | 30. आयना (शीशा)-दर्पणः, आदर्शः |

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| 31. इत्र (सैंट)-गन्धतैलम् | 32. उबटन - उद्वर्तनम् | 33. कंघी-प्रसाधनी |
| 34. काजल-अञ्जनम्, कज्जलम् | 35. क्रीम-शरः | 36. ड्रेसिंग टेबल-शृंगारफलकम् |
| 37. तिलक-तिलकम् | 38. दाँत का ब्रुश-दन्तधावनम्, दन्तकूर्चः | 39. नेल पोलिश-नखरंजनम् |
| 40. बिन्दी-बिन्दुकः | 41. पाउडर-चूर्णकम् | 42. मंजन-दन्तचूर्णम् |
| 43. मेहदी-मञ्जिष्ठा | 44. लिपस्टिक-ओष्ठरंजनम् | 45. साबुन-फेनिलम्, फेनकम् |
| 46. सिन्दूर-सिन्दूरम् | 47. दाँत कूरेदने की सूई-दन्तशोधनी | 48. महावर-अलक्तका |
| 49. रूज-कपोलरंजनम् | 50. सिंगारदान-शृंगारधानम्, शृंगारपिटकम् | |

UNIT-III

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| (घ) व्यञ्जन सन्धि | 5x1=05अंक |
| (ङ) द्वन्द्व- समास | 5x1=05अंक |
| (च) तद्धित प्रत्यय : अण् , मतुप्, तरप् , तमप् - केवल उदाहरण ही प्रष्टव्य हैं) | 5x1=05अंक |

UNIT-IV

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| (छ) शब्दरूप : तत्, एतत्, यत्(तीनों लिंगों में) राजन् तथा चन्द्रमस् | 2x5=10अंक |
| (ज) धातुरूप : अस्, दा, कुप्, शक्, प्रच्छ, मिल् (केवल लट्, लोट्, लृट्, लङ्, विधिलिङ् लकार में) | 2x5=10अंक |
| (झ) छन्द : अनुष्टुप्, वंशस्थ, इन्द्रवज्रा, उपेन्द्रवज्रा, उपजाति (दो के ही सोदाहरण लक्षण प्रष्टव्य हैं) | 2x5=10अंक |

UNIT-V

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| (ज) हिन्दी से संस्कृत में अनुवाद (10 में से 5 वाक्य) | 5x2=10अंक |
| सहायक पुस्तक:- शीघ्रबोध, चौखम्बा प्रकाशन, वाराणसी | |

संस्कृत (इलेक्टिव)

बी.ए.(जनरल) द्वितीय वर्ष

SEMESTER-IV

Paper - Sanskrit :

नाटक एवं व्याकरण

पूर्णांक: 90+10=100

(आन्तरिक परीक्षा- 10, लिखित परीक्षा- 90)

समय-3 घण्टे

निर्देश तथा उद्देश्य-

- प्रश्नपत्र का माध्यम हिन्दी होगा। उत्तरों का माध्यम संस्कृत, हिन्दी, पंजाबी या अंग्रेजी में से कोई एक भाषा होगी।
- संस्कृत नाट्यविद्या के स्वरूप और प्रवृत्तियों से परिचित कराना।
- इसके अतिरिक्त व्यावहारिक शब्दावली द्वारा विद्यार्थियों की संस्कृत के प्रति रुचि जागृत करना।
- संस्कृत पूर्ण वैज्ञानिक एवं व्याकरणनिष्ठ भाषा है। अतः विद्यार्थियों को संस्कृत व्याकरण के प्रमुख नियमों का बोध कराना।
- पत्र का अध्ययन समय नौ पीरियड(प्रतिघण्टा) प्रति सप्ताह होगा, जिसमें तीन पीरियड कम्पोजिशन के होंगे।
- सभी प्रश्नों में शतप्रतिशत अथवा निर्दिष्ट विकल्प आवश्यक हैं।

UNIT-I

- (क) दूतवाक्यम् - भास (तीन सूक्ति/श्लोक : सप्रसंग अनुवाद एवम् व्याख्या) 3x10=30 अंक
- (ख) समीक्षात्मक लघु प्रश्न, पात्र चरित्र चित्रण, लेखक परिचय, रचनाएँ व दूतवाक्यम् की विषयवस्तु 5 अंक

UNIT-II

- (ग) व्यावहारिक संस्कृत शब्दावली : अन्न, भोजन एवं तत्सम्बद्ध पात्र (15 में से 10 शब्दों की संस्कृत) 10x1=10 अंक

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| 1. अरहर-आढकी | 2. उडद-माषः | 3. गेहूँ-गोधूमः |
| 4. गेहूँ का आटा - गोधूमचूर्णः | 5. चना-चणकः | 6. जौ-यवः |
| 7. चावल-तण्डुलः, व्रीहिः | 8. ज्वार-यवनालः | 9. तिल-तिलः |
| 10. दाल-द्विदलम् | 11. धान-धान्यम्, शालिः | 12. बाजरा-प्रियङ्गुः |
| 13. बेसन-चणकचूर्णम् | 14. मसूर-मसूरः | 15. मूंग-मुद्गः |
| 16. सत्तु-सक्तुः | 17. सरसों-सर्षपः | 18. हल्दी-हरिद्रा |
| 19. अचार-सन्धितम् | 20. गरम भोजन-उष्णभोजनम् | 22. खिचडी-कृशरः |
| 22. चटनी-अवलेहः | 23. चिकना-चिकणम् | 24. ठंडाभोजन-शीतभोजनम् |
| 25. भरता-भर्ता | 26. भात-ओदनः, ओदनम् | 27. मट्ठा-तक्रम् |
| 28. रसोई-रसवती, पाकशाला, महानस | 29. रायता-राज्यक्तम् | 30. रोटी-रोटिका |
| 31. शक्कर-शर्करा | 32. समोसा-समोषः | 33. सौंफ-मधुरः |
| 34. हींग-हिंगुः | 35. अंगीठी-हसन्ती | 36. कटोरा-कटोरम् |
| 37. कडाही-कटाहः, स्वेदनी | 38. कांच का गिलास - काचकंसम्, काचचषकः | |

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| 39. गिलास-कंसम्, चषकः | 40. घडा-घटः, कुम्भः | 41. चम्मच-चमसः |
| 42. चीमठा-सन्दंशः | 43. टव-द्रोणी | 44. थाली-स्थालिका, थालिका |
| 45. प्लेट - शरावः | 46. बाल्टी-उदञ्चनम् | 47. लोटा-करकः |
| 48. स्टोव-उद्धमानम् | 49. बेलन-वेलनम् | 50. चाकू-छुरिका |

UNIT-III

- (घ) तत्पुरुष - समास 5x1=05अंक
- (ङ) कृदन्त प्रत्यय : क्त, क्तवत्, क्त्वा तथा तुमुन् प्रत्यय 5x1=05अंक
- (गम्, पठ्, पत्, क्रीड्, वद्, पा, लिख्, नी, वृश्, भू, त्यज्, स्मृ, अस्, दा, कुप्, शक्, प्रच्छ्,
मिल्, कृ, क्री, ग्रह, ज्ञा, श्रु, कथ् - इन धातुओं के योग में)
- (च) शब्दरूप : किम् व सर्व (तीनों लिंगों में), महत् व बलवत् (पुलिङ्ग में) एवं कति 2x5=10अंक

UNIT-IV

- (छ) धातुरूप : कृ, क्रीञ्, ग्रह्, ज्ञा, श्रु तथा कथ् (केवल लट्, लोट्, लृट्, लङ्, विधिलिङ् लकार में) 2x5=10अंक
- (ज) कारक (केवल सामान्य नियम-अशुद्ध वाक्यों को शुद्ध करना) 5x1=05अंक

UNIT-V

- (झ) छन्द : शिखरिणी, मन्दाक्रान्ता, मालिनी, वसन्ततिलका तथा भुजंगप्रयात (दो के ही सोदाहरण लक्षण प्रष्टव्य हैं) 10अंक
- सहायक पुस्तक:- शीघ्रबोध, चौखम्बा प्रकाशन, वाराणसी

URDU (Elective)**SEMESTER-III****Prose and Poetry****Theory : 90 marks****Internal Assessment : (5+3+2) 10 marks****Time: 3 Hrs.****Unit-I**

i. Explanation of Verses(Ghazaliat) :

Mir Taqi Mir, Khwaja Mir Dard, Ibrahim Zauq, Mirza Asadullah Khan Ghalib, Momin Khan Momin, Hasrat Mohani, Raghupati Sahay Firaq Gorakhpuri.

20 marks

ii. Explanation of Nazms:

Search Results

Allama Iqbal

-

Chand aur Tare, Mulla aur Bahisht

Nazir Akbrabadi

-

Mele ki Sair

Brij Narayan Chakbast

-

Ramayan ka ek Scene

10 marks

Unit-II

Explanation of prose:

Mir Amman

-

Sair Pehle Darvesh Ki

Sir Syed Ahmed Khan

-

Sarab-e-hayat

Farahatullah Baig

-

Murda Badast Zinda Ast

Munshi Prem Chand

-

Roshni

Rashid-ul-Kheri

-

Toonfan-e-Hayat Ka Ek warq

30 marks

Unit-III

Central idea of a lesson or nazm (from Unit I & II above)

15 marks

Unit-IV

Introduction and literary contribution of the poets & prose writers

Poets: Mir Taqi Mir, Mirza Asadullah Khan Ghalib, Nazir Akbarabadi

Prose writers : Sir Syed Ahmed Khan, Altaf Hussain Hali, Munshi Prem Chand

15 marks

Books Prescribed:

1. Khyaban-e-Adab by, Azimul Haq Junedi, Educational BookHouse, AMU Market, Aligarh.

URDU (Elective)
SEMESTER-IV

Novel: Ek Chadar Maili Si

Theory : 90 marks
Internal Assessment : (5+3+2) 10 marks
Time: 3 Hrs.

Unit-I

Novel - One question each on its Plot and Characters 30 marks

Unit-II

Explanation of Paragraph from Novel 30 marks

Unit-III

Rajinder Singh Bedi Ki Novel Nigari Ki Khususiyat

Or

Novel Ke Ajza-e-Tarkibi 15 marks

Unit-IV

Unseen paragraph (candidate will be asked three questions from it) 15 marks

Books Prescribed :

1. Ek Chadar Maili Si, by Rajinder Singh Bedi.

PERSIAN (Elective)
SEMESTER-III

Instructions to the paper setter/examiner :

There will be one paper in each Semester i.e. 3rd and 4th Semester of 90 marks each and Internal Assessment of 10 marks for the session of 2023-2024.

Paper-A : Prose

Marks : 90
Internal Assessment : 10
Time : 3 hours

- | | |
|--|----------|
| 1. Translation of text pieces into English, Hindi, Urdu, Panjabi or Persian. | 20 marks |
| 2. Explanation of text pieces into English, Hindi, Urdu, Panjabi or Persian. | 20 marks |
| 3. Summary or central idea of the text prescribed as in Dastanha-ye-Kutah. | 20 marks |
| 4. Simple direct questions on the life and works of the authors. | 30 marks |

Books prescribed

Nisabe Jadide Farsi
(Published By Jayyad Press Ballimaran Delhi)
Only following portions from Prose Section.

- i. Intekhab-e-Sarzamin-e-Hind-Ali Asghar Hikmat.
- ii. Dastan-e-Kutah by Mohammad Hejazi.

PERSIAN (Elective)**SEMESTER-IV****Instructions to the paper setter/examiner :**

There will be one paper in each Semester i.e. 3rd and 4th Semester of 90 marks each and Internal Assessment of 10 marks for the session of 2023-2024.

Paper-B : Poetry

Marks : 90
Internal Assessment : 10
Time : 3 hours

Distribution of marks :

- | | |
|--|----------|
| 1. Translation of text pieces into English, Hindi, Urdu, Panjabi or Persian. | 20 marks |
| 2. Explanation of text pieces into English, Hindi, Urdu, Panjabi or Persian. | 20 marks |
| 3. Central idea of the poem. | 20 marks |
| 4. Simple direct questions on the life and works of the poets as prescribed in the text. | 30 marks |

Books prescribed

Nisab-e-Jadeed-e-Farsi(Published by Jayyad Press Ballimaran, Delhi). Only following portions from Prose Section.

Az Gzalliyat-e-Hafiz

Agar Aan Turke Shirazi Be Dast Aarad Dile Maara.

Saaqi Benur Badah Bar Afrooz Jam-e- Maa.

Doosh deedam Keh Malayek Dare Maiykhaneh Zadand.

Gazalliyat-e-Khdsrow:

Jan Ze Tan Burdi-o- Dar Jaani Hunooz.

Madeh Pandam Ke Man Dar Seeneh Saudayee Digar Daram.

FRENCH (ELECTIVE)**SEMESTER-III****WRITTEN COMPREHENSION AND EXPRESSION, GRAMMAR AND CREATIVE WRITING**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 hours |

- I Questions:
- (a) Five Questions (including General and based on Civilization) from the prescribed Text book (4 marks each) 20 Marks
- (a) Questions on applied grammar, including conjugation of verbs in applied form, from the textbook. 20 Marks
- (c) Composition based on the subject or theme from the text. 15 Marks
- (b) Comprehension of an unseen text.
Ten questions to be put in French and to be answered in French. 15 Marks
- II Prose:
- Direct simple questions based on the prescribed text (Tintin au Tibet) to be asked and answered in French, Questions should be of 5 marks each. 20 Marks

CHOICE TO BE GIVEN IN ALL QUESTIONS**Courses of Reading**

Text Book: 1. Saison-2 (Units 0-4)Méthode de Français par Marie-Noëlle Cocton, Anneline Dintilhac, Dorothée Dupleix, Delphine de Ripaux, Anouchka Oliveira, Les Editions Didier, 2014.

(a) Livre de l'élève

(b) Cahier d'exercices

Prose: -*Tintin Au Tibet*, Casterman

- Note:
1. Questions on composition and unseen passage to be based on the vocabulary and grammar of the textbook covered by the students in B.A. 3rd Semester.
 2. All questions are to be asked and answered in French.

For the information of private candidates:

The theory paper would be proportionately marked out of 100 as there is no internal assessment.

**FRENCH (ELECTIVE) 4TH SEMESTER:
CREATIVE WRITING, GRAMMAR AND POETRY**

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 60 Marks |
| Internal Assessment | : 10 Marks |
| Viva | : 30 Marks |
| Time | : 3 hours |

- | | | |
|----|--|----------|
| I | Selected Readings in Poetry: Questions, explanation of stanzas or of poems, central ideas and summaries of poems to be asked and answered in French. 5X5 Choice | 25 Marks |
| II | (a) Questions (including General and based on Civilisation) from the prescribed Text book (4 marks each). | 20 Marks |
| | (b) Questions on applied grammar, including conjugation of verbs in applied form from the textbook. | 15 Marks |

CHOICE TO BE GIVEN IN ALL QUESTIONS

Courses of Reading

Text Book: Saison-2 (Units 5-9) Méthode de Français par Marie-Noëlle Cocton, Anneline Dintilhac, Dorothée Duplex, Delphine de Ripaux, Anouchka Oliveira, Les Editions Didier, 2014.

(a) Livre de l'élève
Cahier d'exercices

Poetry:

The following 8 poems to be studied: Comprehension, explanation, literary appreciation of the poems.

1. Charles BAUDELAIRE
Recueil : *Fleurs du mal*
L'horloge
<http://fleursdumal.org/poem/200>
2. La Fontaine
L'amour et la folie
3. Paul VERLAINE
Il pleure dans mon coeur

4. Pierre de Ronsard
Mignonne,allons voir si la rose

5. Jacques PRÉVERT
Le temps perdu

6. Alphonse de LAMARTINE
Recueil : Nouvelles méditations poétiques

Le papillon

<http://poesie.webnet.fr/lesgrandsclassiques/poemes>

7. Gérard de NERVAL
Recueil : Odelettes
Le point noir
<http://poesie.webnet.fr/lesgrandsclassiques/poemes>

8. Jean-Pierre Claris de FLORIAN
Recueil : Chanson
Plaisir d'amour
<http://poesie.webnet.fr/lesgrandsclassiques/poemes>

All questions are to be asked and answered in French.

Viva: 30 Marks

Reading:

Seen 5 Marks

Unseen 5 Marks

Conversation 10 Marks

Dictation 10 Marks

For the information of private candidates:

1. Viva is compulsory
2. The theory paper would be proportionately marked out of 70 as there is no internal assessment.

GERMAN (Elective)
SEMESTER-III

Summary

| | | |
|---------------------|---|-------------------|
| Max. Marks | : | 100 marks (Total) |
| Paper-A(Theory) | : | 90 marks |
| Internal Assessment | : | 10 marks |

Paper A-Theory: 90 marks**Time: 3 hours**

Note: Use of dictionary is allowed

- i. Questions in applied grammar(including fill in the blanks) conforming to prescribed text-book “Lagune-2”: Chapters 1-17 upto page 87 50 marks
(5 questions)
- ii. Questions on “Culture & Civilization” from the prescribed book text-book “Lagune-2”: Chapters 1-17 upto page 87 20 marks
(4 out of 5 questions to be attempted)
- iii. Summary in German of any one short-story from Prescribed book “Texte zum Lesen und Nacherzählen”, from pages 1-12 20 marks

Internal Assessment**10 marks(Total)**

- i. Continuous Evaluation
- ii. Attendance

Note:

1. The mode of evaluation for internal assessment is to be followed as per University guidelines.
2. For private candidates, Internal Assessment will be calculated proportionately to the marks obtained by the candidate in written examination and, wherever applicable, total of both written & oral examination (e.g. in Paper B)

Prescribed Textbook:

- i. “Lagune-2” Kursbuch (**2006 Edition**) by Hartmut Aufderstraße a.o: Chapters 1-17 upto page 87.
- ii. Texte zum Lesen und Nacherzählen by Hans-Joachim Arndt, Hueber Verlag, upto page 12.

Supplementary book:

- i. “Lagune-2” Arbeitsbuch by Hartmut Aufderstraße a.o: Chapters 1-17

GERMAN (Elective)**SEMESTER-IV****Summary**

| | |
|------------------------------------|-------------------|
| Max. Marks | : 100marks(Total) |
| End Semester Exam Paper-B (Theory) | : 60 marks |
| Oral (viva-voce) examination | : 30 marks |
| Internal Assessment | : 10 marks |

Paper B-Theory**: 60 marks(Total)****Time****: 3 hours**

Note: Use of dictionary is allowed

- i. Questions in applied grammar(including fill in the blanks)confirming to prescribed text-book “Lagune-2”: Chapters 18-34
(5 questions) 30 marks
- ii. Questions on “Culture & Civilization” from the prescribed text-book “Lagune-2”: Chapters 18-34
(4 out of 5 questions to be attempted) 15 marks
- iii. Summary in German of any one short-story from Prescribed book “ Texte zum Lesen und Nacherzählen”, from pages 12-22 15 marks

Oral (viva-voce) Examination**: 30 marks(Total)**

- i. Conversation in German
- ii. Reading of a simple unseen text and answering questions there-on

Internal Assessment**: 10 marks(Total)**

- i. Continuous Evaluation
- ii. Attendance

Note:

1. The mode of evaluation for internal assessment is to be followed as per University guidelines.
2. For private candidates, Internal Assessment will be calculated proportionately to the marks obtained by the candidate in written examination and, wherever applicable, total of both written & oral examination (e.g. in Paper B)

Prescribed Textbook:

- iii. “Lagune-2” Kursbuch (**2006 Edition**) by Hartmut Aufderstraße a.o: Chapters 18-34.
- iv. Texte zum Lesen und Nacherzählen by Hans-Joachim Arndt, Hueber Verlag, page 12-22.

Supplementary book:

- ii. “Lagune-2” Arbeitsbuch by Hartmut Aufderstraße a.o: Chapters 18-34

RUSSIAN (Elective)**SEMESTER-III****Paper-A (General Translation, Grammar, Composition and Comprehension): Written**

| | | | | | |
|---------------------|----------|---------------|---|----------|-----------------|
| Maximum Time | : | 3 hrs. | Max. Marks | : | 100 |
| | | | Theory | : | 90 marks |
| | | | Internal Assessment (For regular students) | : | 10 marks |

- | | | |
|----|--|-----------------|
| 1. | Translation from simple Russian into English/Hindi/Punjabi. (about 120 words) | 15 marks |
| 2. | Translation from simple English/Hindi/Punjabi into Russian (about 100 words) | 15 marks |
| 3. | Simple applied grammar: 3 question out of 5 (5 marks each) (Covered in Lessons 31-37, Wagner) | 15 marks |
| 4. | Question on prescribed texts in Russian : 3 questions out of 5 (5 marks each) (Covered in Lessons 31-37, Wagner) | 15 marks |
| 5. | Composition (One out of three) on the following topics: 1. My friend 2. My Country 3. My favorite writer 4. Our Library | 15 marks |
| 6. | Comprehension: 5 questions out of 7 (3 marks each) on the unseen texts to be reproduced in the question paper | 15 marks |

Note: Use of dictionaries is allowed

Book Prescribed

1. V. N. Wagner: Russian, PPH, New Delhi. (Lessons 31-37)

Books recommended for additional reading

1. A.K. Maurya: ESSENTIAL RUSSIAN, University of Delhi, 2004.
2. S Khavronina: Russian in Exercise, 1978
3. I. Pulkina: RUSSIAN A Practical Grammar with Exercise, Russky Yazik. Pub. H. Moscow
4. Dictionaries: English-Russian dictionary
Russian-English dictionary

**RUSSIAN (Elective)
SEMESTER-IV**

Paper-B (General Translation, Grammar, Composition and Comprehension): Written

| | | | |
|---------------------|----------|---|------------|
| Maximum Time | : 3 hrs. | Max. Marks | : 70 |
| | | Theory | : 60 marks |
| | | Internal Assessment (For regular students) | : 10 marks |

1. Translation from simple Russian into English/Hindi/Punjabi. (about 80 words) **10 marks**
2. Translation from simple English/Hindi/Punjabi into Russian (about 75 words) **10 marks**
3. Simple applied grammar: 3 questions out of 5 (4 marks each)
(Covered in Lessons 38-45, Wagner) **12 marks**
4. Questions on prescribed texts in Russian : 4 questions out of 6
(2 marks each)
(Covered in Lessons 38-45, Wagner) **08 marks**
5. Composition (One out of three) on the following topics: **10 marks**
1. Our City 2. Our University 3. A Cultural evening 4. Journey/Excursion
6. Comprehension: 5 questions out of 7 (2 marks each) on the unseen texts to be reproduced in the question paper **10 marks**

Note: Use of dictionaries is allowed

Book Prescribed

1. V. N. Wagner: Russian, PPH, New Delhi. (Lessons 38-45)

Books recommended for additional reading

1. A.K. Maurya: ESSENTIAL RUSSIAN, University of Delhi, 2004.
2. S Khavronina: Russian in Exercise, 1978
3. I. Pulkina: RUSSIAN A Practical Grammar with Exercise, Russky Yazik. Pub. H. Moscow
4. Dictionaries: English-Russian dictionary.
Russian-English dictionary.

(iii) Oral/Practical

Maximum Marks:30

Reading of text(s) and conversation in simple Russian

1. V. N. Wagner: Russian, PPH, New Delhi.(Lessons 31-45)

SUBJECT :**ARABIC (Elective)****BENGALI (Elective)****TAMIL (Elective)****TELUGU (Elective)****KANNADA (Elective)****MALAYALAM (Elective)**

The above Syllabi for B.A.(GENERAL)
SECOND YEAR (SEMESTER SYSTEM) has been
KEPT IN ABEYANCE

PHYSICAL EDUCATION

B.A. (GENERAL) THIRD SEMESTER EXAMINATION, 2023-2024

| | | |
|---------------------|---|----------|
| Max. Marks | : | 65 |
| Theory | : | 60 marks |
| Internal Assessment | : | 05 marks |
| Time | : | 3 Hrs. |

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS :

- (i) There shall be nine questions in all, spread over five units.
- (ii) First question/unit is compulsory. It will contain six short answer type questions, spread over the whole syllabus to be answered in brief. It will carry 12 marks.
- (iii) Rest of the paper shall contain four units for descriptive questions. Each unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each unit.
- (iv) All questions/units will carry equal marks.
- (v) Private candidates and the students of the Centre for Distance and Online Education (CDOE) will not be allowed to take this subject.

UNIT-I

12 Marks

Entire syllabus given in the Units II to V will be covered to set six short answer type questions in first question/unit of the question paper which is compulsory.

UNIT-II

12 Marks

Psychological Basis of Physical Education :

- Meaning of Psychology and Sports Psychology.
- Psychological factors effecting physical performance.
- Meaning of Learning.
- Laws of Learning.
- Learning curve, its types, characteristics and implications in Physical Education and Sports.
- Psychological characteristics and problems of an adolescent.
- The role of Physical Education and Sports in solving the problems of an adolescent.

UNIT-III

12 Marks

Motivation:

- Meaning, definitions, types and methods of motivation.
- Importance of motivation in Physical Education and Sports.

Transfer of Training:

- Meaning, definitions, types and factors affecting transfer of training.

UNIT-IV

12 Marks

Personality:

- Meaning, definitions, characteristics, dimensions and traits of personality.
- Factors affecting development of personality (Heredity and Environment).
- Role of physical activities in Personality Development.

Sports and Socialization:

- Meaning and definitions of socialization, socialization through sports.

UNIT-V

12 Marks

Politics, Economy, Media and Sports Performance :

- Role of politics and economy in the promotion of games and sports.
- Role of media in promotion of sports.
- Causes of deterioration and suggestions for the improvement of Sports Performance.

Softball:

- History of the game.
- Basic fundamentals.
- Equipment and specifications.
- Marking/layout of field.
- Rules and regulations (number of players, number of officials required and general rules of play).
- Major tournaments of the game.

References :

1. Blair Jones & Simpson : "*Educational Psychology* ", The MacMillan Co., New York, 1962.
2. Brown, R. : "*Social Psychology*", Free Press, New York, 1965.
3. Bucher, Charles A. : "*Foundations of Physical Education*", St. Louis, 1979, The C.V. Mosby Company.
4. Conger, J.J.: "*Adolescence and Youth : Psychological Development in a Changing World,*" 22nd Edition, 1977, Harper and Row, New York.

5. Cratty, B.J.: “ *Psychology and Physical Activity*”, Englewood Cliffs, N.J., Prentice Hall, 1968
6. Hollander, E.P.: “ *Principles and Methods of Social Psychology*”, New York, 1971, Oxford University Press.
7. Linsa, M.I., “*Child-Adults, Peers : Patterns Communication*”, Progress Publishers, Moscow, 1985.
8. Linggren, H.E.: “ *Educational Psychology in the Class Room*”, John Wiley & Sons, New York, 1962.
9. Loy, John W. and Kenyon Gerald, S. : “*Sport, Cultural and Society : A Reader on the Sociology of Sport*”, London, 1969, The MacMillan Co.
10. Hurlock, E.B. : “ *Adolescent Development*”, Appleton Century Crofts, New York, 1956.
11. Rushall, Brent S. and Siedentop : “*The Development and Control of Behaviour in Sport and Physical Daryl Education*”, Philadelphia, 1972, Lea and Febiger.
12. Shaphard, R.J. : “*The Fit Athlete*”, Oxford University Press, 1978.
13. Singh, Ajmer et. al. : *Modern Text Books of Physical Education, Health and Sports*, Kalyani Publishers, Ludhiana, 2000.
14. Talamini, John T. and Page & Charles, H. : “*Sport & Society – An Anthology*”, Boston, 1973, Little Brown Co.
15. Walia, J.S. : “*Foundations of Educational Psychology*”, Paul Publishers, Jalandhar City, 1992.
16. Wilmore, Jack H. : “*Athletic Training and Physical Fitness*”, 1977, Allyn and Bacon, Inc., 470, Atlantic Avenue, Boston, Massachusetts.

PRACTICAL

Max.Marks : 35
Practical : 30
Internal assessment: 5

ATHLETICS

- a) History of athletics
- b) List of track and field events
- c) Marking of standard track, width of lanes and starting points for various races.

LONG JUMP:

- (a) Approach run (b) Take off (c) Flight (d) Landing (e) Brief information of various styles and practice of any one style depending upon the facilities available (f) Rules and regulations of the long jump.

PHYSICAL FITNESS TESTS:

More emphasis shall be given on physical fitness with regard to specific physical fitness components (Endurance and Strength).

Test 1 : ENDURANCE : 9/12 min. run and walk test.

Test 2 : STRENGTH : Standing broad jump test.

Division of Practical Marks: Marks for each activity shall be divided as under:

Athletics 10 Marks, Participation and achievement in sports/games 5 marks, Physical fitness 5 marks, viva voce/ practical file 10 marks and internal assessment 5 marks based on overall performance of a student during the current semester which will be assessed by the teacher concerned.

- Note :*
1. Polevault, Hammer Throw Hurdles, Relay Races and steeple chase men are not included in the practical syllabus/course due to the fact that these events are highly technical. Moreover in the absence of proper facilities required for the events mentioned above may prove to be injurious /fatal to the students.
 2. 12 periods per week (6 periods each for theory and practical) shall be allotted to a class.
 3. The theory and practical class shall consist of 60-80 students and 30-40 students respectively.
 4. The theory and practical papers shall consist of 65 and 35 marks each.
 5. As per the Panjab University Calendar, Chapter XIX (Page 324) Volume III, 1990, the maximum teaching work load for an Assistant Professor in Physical Education for B.A. Pass Course is 24 periods per week, which includes theory as well as practical.
 6. The choice of games by the students shall be confined to games approved by the Association of Indian Universities.
 7. A student is required to prepare a practical notebook on athletics with complete marking of standard track and starting points for various races and an event (long jump) mentioned in the syllabus.

Mandatory Instructions for the Colleges:

1. Admission Criteria:

- (i) Any student opting to have Physical Education as an Elective Subject irrespective of the background of the students (sports or non-sports students) must appear in the physical fitness test. Ranking should be prepared and the top 60-80 students should be offered this subject.
- (ii) This subject should be offered to the normal students (not to disabled one).
- (iii) To measure Physical Fitness through Cardiovascular Fitness Test, Cooper's 9 Minutes or 12 Minutes Run-Walk Test should be conducted.
- (iv) The date of Physical Fitness Test must be mentioned in the prospectus of the College.

2. Periodical Physical Inspections :

The University/Authorities with the collaboration of the Department of Physical Education, Panjab University, shall make Periodical Physical inspections of the various colleges to ensure that the teacher student ratio is maintained by all the affiliated colleges for this subject **as per the University Guidelines**, and for them to ensure that infrastructure (facilities), equipment, books/professional journals and groundmen, a game boy are provided as per the requirements of the subject and directions of the Panjab University, Chandigarh.

3. Strength of Students :

For imparting effective teaching, the strength of students in a theory class shall be between 60-80 while it shall be 30-40 students in practical class.

4. Infrastructure/facilities and Supporting personnel:

For the introduction/to continue with this subject, a college must fulfil the following mandatory requirements:

- (i) A track atleast of 200 mtrs., it should, however, preferable be raised to 400 mtrs. track.
- (ii) Bare minimum two Malies-cum-Groundmen for maintenance of the grounds and other infrastructure facilities etc.
- (iii) A game boy to supply the sports equipments and water to the students/ teachers on the ground/playfield/arena.
- (iv) A store-keeper for the proper maintenance/accountability of sports equipments in the stores.

5. Number of Periods :

The number of periods for theory and practical shall be 12 periods per week (6 periods each for theory and practical) for classes i.e. B.A. First to sixth semester.

Practical period shall be projected in the college time table itself.

6. Teaching Work Load :

- (i) As per the Panjab University Calendar Chapter XX (Page 298) Volume-III, 1996, the Maximum teaching work load for an Assistant Professor in Physical Education for B.A. Pass course is 24 periods per week which includes theory as well as practical.
- (ii) Teachers who are preparing 6 teams for the Panjab University Inter College Competition, their work load shall be counted by including six periods per week in the teaching load of concerned teachers in Physical Education.

7. Division of Marks (Theory and Practical) :

65% and 35% weightage shall be given to each theory and practical papers.

Note : STRICT ACTION SHALL BE TAKEN BY THE UNIVERSITY AGAINST THE COLLEGE(S) WHICH VIOLATES THE ABOVE INSTRUCTIONS.

PHYSICAL EDUCATION
B.A. (GENERAL) FOURTH SEMESTER EXAMINATION, 2023-2024

| | | |
|---------------------|---|----------|
| Max. Marks | : | 65 |
| Theory | : | 60 marks |
| Internal Assessment | : | 05 marks |
| Time | : | 3 Hrs. |

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS :

- (i) There shall be nine questions in all, spread over five units.
- (ii) First question/unit is compulsory. It will contain six short answer type questions, spread over the whole syllabus to be answered in brief. It will carry 12 marks.
- (iii) Rest of the paper shall contain four units for descriptive questions. Each unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each unit.
- (iv) All questions/units will carry equal marks.
- (v) Private candidates and the students of the Centre for Distance and Online Education (CDOE) will not be allowed to take this subject.

UNIT-I

12 Marks

Entire syllabus given in the Units II to V will be covered to set six short answer type questions in first question/unit of the question paper which is compulsory.

UNIT-II

12 Marks

Respiratory System :

- Meaning of Respiration, types of Respiration, Organs of the Respiratory System.
- Functions of the Respiratory System. Vital capacity and its measurement.
- Mechanism and Neural Control of Respiration.

Digestive System :

- Meaning, Importance and Organs of Digestive System.
- Functions, processes, mechanism and nerve regulators of Digestive System.

UNIT-III

12 Marks

Circulatory System :

- Meaning of the circulatory system.
- Heart, its structure, functions and control of the heart rate.
- Various types of blood vessels and their functions.
- Cardiac Cycle.

Blood :

- Meaning, functions and composition of blood.
- Maintenance of blood supply.
- Blood groups and their importance.
- Blood Clotting.

UNIT-IV

12 Marks

Communicable Diseases :

Meaning of a communicable disease. Communicable diseases such as HIV/AIDS, Viral Hepatitis—A, B & C and Tetanus, their modes of transmission and methods of prevention.

Yoga:

- Meaning and aim of Yoga.
- Meaning, Principles and Importance of Asanas.
- Meditative poses (Padmasana, Vajrasana, and Sukhasana), their technique, precautions and effects/advantages.
- Cultural poses (Savasana, Halasana, Bhujangasana Sarvangasana, and Dhanurasana), their technique, precautions and effects/advantages.

Basics of Tennis :

- History of the game.
- Basic fundamentals.
- Equipment and specifications.
- Marking / layout of court.
- Rules and regulations (number of players, duration of game, number of officials required and general rules of play).
- Major tournaments and Arjuna awardees of the game.

UNIT-V

12 Marks

Sports Injuries :

- Basis of Sports Injuries.
- Common Sports Injuries, such as sprains, strains, fracture, dislocation, abrasions, contusion, bruise, tennis elbow. Their causes, preventive and remedial measures.
- Treatment and care (RICE) of sports injuries.

Disability and Rehabilitation :

- Meaning, types, causes and preventive measures of disability.
- Problems of the disabled. Physical Activity and health for disabled.
- Meaning and scope of Rehabilitation.

References :

1. Chaurasia, B.D. : *"Handbook of General Anatomy"*, CBS Publishers and Distributors, First Edition, 1981.
2. Dandiya, P.C., Jafer, Z.Y. K. and Jafer Afifa: *"Health Education and Community Pharmacy"*, Second Edition, 1996, Reprinted in 1998, Vallabh Prakashan, Pitampura, New Delhi.
3. Govt. of India : *"Occupational Diseases : A Guide to Recognition and Notification"*, Chief Adviser Factories, Ministry of Labour and Employment, New Delhi, 1955.
4. Park, J.E. & Park, K. : *"Text Book of Preventive and Social Medicine"*, 10th Edition, 1985, Banarsi Dass Bhanot, Jabalpur, India.
5. Parrot, J.W. : *"Anatomy and Physiology for Physical Education Assistant Professors"*, Lend : Edward Arnold Ltd., 1983.
6. Rao, M.N. and Lundgren, N.P.V. : *"A Review of Occupational Health Research in India"*, ICMR, New Delhi, 1955.
7. Rose & Wilson : *"Foundations of Anatomy and Physiology"*, 5th Edition, 1981, Reprinted in 1985.
8. Winter Griffith, H. : *"Complete Guide to Sports Injuries"*, First Indian Edition, 1989, Metropolitan Book Co. Pvt. Ltd., New Delhi.
9. Sampath, K. & Uma Maheshwar, B. : *"Human Anatomy & Physiology"*, First Edition, 1999- 2000, Birla Publications, Delhi.
10. Singh, Ajmer et. al. : *"Modern Text Book of Physical Education, Health and Sports"*, Kalyani Publishers, Ludhiana, 2000.
11. Smith, Olive and F. Guthrie : *"Rehabilitation and Remedial Exercise"*, Bailliere, Tindall and Cox Limited, London, 1949.
12. Sri Anand : *"The Complete Book of Yoga : Harmony of Body and Minds"*, Orient Paper Back, New Delhi, 1980.
13. Staford, T. & Ellen Davis Kelly : *"Preventive and Corrective Physical Education"*, Third Edition, 1958, Ronald Press Co., New York.
14. Swami Kuvalyananda : *"Kaivalyadhama"*, Lonavala, Bombay, 1933.
15. Vijayendra Pratap : *"A Teacher's Guide for Beginning Yoga"*, First Edition, 1987, Sky Foundations, Philadelphia, Pennsylvania, U.S.A.
16. World Health Organisation : *"Health Hazards of the Human Environment"*, Geneva, 1962.

| | | |
|------------------|----------------------------|------|
| PRACTICAL | Max. Marks | : 35 |
| | Practical | : 30 |
| | Internal Assessment | : 05 |

GAMES

Basketball or Ball badminton and any other one game of the choice of the student.

Basketball

- Measurements (Basket ball ground).
- Number of players and officials.
- Rules and Regulations of the game.
- Fundamental and basic skills.

Football

- Measurements (Field & ball).
- Number of players and officials.
- Rules and Regulations of the game.
- Fundamental Skills.

Division of Practical Marks: Marks for each activity shall be divided as under:

Game 10 marks, participation and achievement in sports/games 5 marks, Physical fitness 5 marks, viva voce/practical file 10 marks and internal assessment 5 marks based on overall performance of a student during the current semester which will be assessed by the teacher concerned.

Note:

- 12 periods per week (6 periods each for theory and practical) shall be allotted to a class.
- The theory and practical class shall consist of 60-80 students and 30-40 students respectively.
- The theory and practical papers shall consist of 65 and 35 marks each.
- As per the Panjab University Calendar, Chapter XIX (Page 324) Volume III, 1990, the maximum teaching work load for an Assistant Professor in Physical Education for B.A. Pass Course is 24 periods per week, which includes theory as well as practical.
- The choice of games by the students shall be confined to games approved by the Association of Indian Universities.
- A student is required to prepare a practical notebook of a game given in the syllabus and any one game of choice.

Mandatory Instructions for the Colleges:

1. Admission Criteria:

- Any student opting to have Physical Education as an Elective Subject irrespective of the background of the students (sports or non-sports students) must appear in the physical fitness test. Ranking should be prepared and the top 60-80 students should be offered this subject.
- This subject should be offered to the normal students (not to disabled one).
- To measure Physical Fitness through Cardiovascular Fitness Test, Cooper's 9 Minutes or 12 Minutes Run-Walk Test should be conducted.
- The date of Physical Fitness Test must be mentioned in the prospectus of the College.

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The University/Authorities with the collaboration of the Department of Physical Education, Panjab University, shall make Periodical Physical inspections of the various colleges to ensure that the teacher student ratio is maintained by all the affiliated colleges for this subject **as per the University Guidelines**, and for them to ensure that infrastructure (facilities), equipment, books/professional journals and groundmen, a game boy are provided as per the requirements of the subject and directions of the Panjab University, Chandigarh.

3. Strength of Students:

For imparting effective teaching, the strength of students in a theory class shall be between 60-80 while it shall be 30-40 students in practical class.

4. Infrastructure/facilities and Supporting personnel:

For the introduction/to continue with this subject, a college must fulfil the following mandatory requirements such as:

- (i) A track atleast of 200 mtrs., it should, however, preferable be raised to 400 mtrs. track.
- (ii) Bare minimum two Malies-cum-Groundmen for maintenance of the grounds and other infrastructure facilities etc.
- (iii) A game boy to supply the sports equipments and water to the students/ Assistant Professors on the ground/playfield/arena.
- (iv) A store-keeper for the proper maintenance/accountability of sports equipments in the stores.

5. Number of Periods:

The number of periods for theory and practical shall be 12 periods per week (6 periods each for theory and practical) for classes i.e. B.A. First to sixth semester.

Practical period shall be projected in the college time table itself.

6. Teaching Work Load:

- (i) As per the Panjab University Calendar Chapter XX (Page 298) Volume-III, 1996, the maximum teaching work load for a Assistant Professor in Physical Education for B.A. Pass course is 24 periods per week which includes theory as well as practical.
- (ii) Teachers who are preparing 6 teams for the Panjab University Inter College Competition, their work load shall be counted by including six periods per week in the teaching load of concerned teacher in Physical Education.

7. Division of Marks (Theory and Practical):

65% and 35% weightage shall be given to each theory and practical papers.

Note : STRICT ACTION SHALL BE TAKEN BY THE UNIVERSITY AGAINST THE COLLEGE(S) WHICH VIOLATES THE ABOVE INSTRUCTIONS.

EDUCATION

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024

SEMESTER-III

Paper-III : FOUNDATIONS OF EDUCATION

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

GENERAL INSTRUCTIONS FOR THE PAPER-SETTER :

The question paper will consist of five units : I, II, III, IV and V. Unit I, II, III and IV will have two questions from the respective unit of the syllabus and will carry 18 marks each. Unit V will consist of **eight** short answer type questions which will cover the entire syllabus uniformly and will carry 18 marks. The students are required to attempt 6 short answer type questions out of 8 in unit V which will be compulsory. The question paper should preferably carry internal division of marks for all the sub-questions of one main question. Preferably set the words limit for answer (300-350 words for units I, II, III, IV and 75 words for each short answer type question in Unit V).

INSTRUCTIONS FOR THE CANDIDATE :

The students will be required to attempt one question each from Units I, II, III and IV. Unit V will be compulsory. Students are required to attempt 6 short answer type questions out of 8 in Unit V. The words limit will be 300-350 words for Unit I, II, III and IV; and 75 words for each short answer type in Unit V.

Objectives :

1. To acquaint the students with major foundations underlying Education.
2. To enable the students to understand the concept of Philosophy of Education.
3. To enable the students to understand the concept of Educational Sociology and Educational Technology.
4. To enable the students to understand major Philosophies and their Educational implications.

COURSE CONTENTS :

UNIT-I

Philosophical, Sociological, and Technological Foundations of Education—Concept and their Role in Education.

UNIT-II

Philosophy of Education – Definition, Nature and Scope.

Difference between Educational Philosophy and Philosophy of Education.

UNIT-III

Educational Sociology – Definition, Nature and Scope.

Information and Communication Technology—Role in Education.

UNIT-IV

Major Philosophies of the World—Idealism, Naturalism and Pragmatism—Main Features and their Contribution to Education.

Books Recommended :

1. Aggarwal, J.C. : *Theory and Principles of Education*, Vikas Publishing House Pvt. Ltd., New Delhi, 2003.
2. Bhatia, K.K. and Narang, C.L. : *Philosophical and Sociological Bases of Education*, Tondon Publications, Ludhiana, 2002.
3. Sataya, R.N. and Shaida, B.D. : *Development of Educational Thought and Practice*, Dhanpat Rai Publishing Company (P.), New Delhi, 1996.
4. Taneja, V.R. : *Foundations of Education*, Mohindra Capital Publishers, Panchkula, 1998
5. Singh, K. : *Vidiyak Manovigian*, Gujral Book Depot, Patiala, 1999.

EDUCATION
B.A. (GENERAL) SECOND YEAR EXAMINATION
SEMESTER-IV

Paper-IV : PSYCHOLOGICAL FOUNDATIONS OF EDUCATION

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

GENERAL INSTRUCTIONS FOR THE PAPER-SETTER :

The question paper will consist of five units : I, II, III, IV and V. Unit I, II, III and IV will have two questions from the respective unit of the syllabus and will carry 18 marks each. Unit V will consist of **eight** short answer type questions which will cover the entire syllabus uniformly and will carry 18 marks. The students are required to attempt 6 short answer type questions out of 8 in Unit V which will be compulsory. The question paper should preferably carry internal division of marks for all the sub-questions of one main question. Preferably set the words limit for answer (300-350 words for Units I, II, III, IV and 75 words for each short answer question in Unit V).

INSTRUCTIONS FOR THE CANDIDATE :

The students will be required to attempt one question each from units I, II, III and IV. Unit V will be compulsory. Students are required to attempt 6 short answer type questions out of 8 in Unit V. The words limit will be 300-350 words for Unit I, II, III and IV and 75 words for short answer type question in Unit V.

Objectives :

1. To enable the students to understand the perspective roles of heredity and environment in educational development of a child.
2. To enable the students to understand the concept of personality and its place in Education.
3. To make the students familiar with the concept of Special Education; the special needs of the Gifted, Backward and Delinquent Children and their Educational implications.
4. To make the students familiar with the concepts of Emotions, Stress and Stress management among adolescents.

COURSE CONTENTS :

UNIT-I

Difference between Psychology and Educational Psychology, Significance of Educational Psychology.

Heredity and Environment – Concepts and their role in Educational development.

UNIT-II

Personality : Concept, Assessment and its Educational Implications.

UNIT-III

Special Education : Meaning and Concept.

Types of Exceptional Children with special reference to the Gifted, Backward and Delinquents (Their Characteristics and Educational Implications).

UNIT-IV

Emotions and Stress – Concept, Types of Stress (Physical, Psychological and Social), Stress Management with Special Reference to Adolescents.

Books Recommended :

1. Batra, Promod : *Simple Ways to Manage Stress*, Think Inc., Delhi, 1997.
2. Carewell, M., Clark, L. & Meldrum, C. : *Psychology*, Harper Collins Publishers Ltd., London, 2000.
3. Clare, Sylvia : *Emotions –Releasing Your Child's Potential*, UBS Publishers and Distributors, New Delhi, 2003.
4. Chauhan, S.S. : *Advanced Educational Psychology*, Vikas Publishing House Pvt. Ltd., New Delhi, 2003.
5. Dhaliwal, A.S. : *Vidyak Mnovigian*, Punjabi University, Patiala, 2001.
6. Dutt, Sunil & Sodhi, G.S. : *Teaching Learning – A Process Approach*, Samir Publications, Chandigarh, 1995.
7. Goleman Daniel : *Emotional Intelligence*, Baanam Books, New York, 1995.
8. Kirk, Semual : *Educating the Exceptional Child*, I.B.H. Publishing Co., Calcutta, 1992.
9. Mangal, S.K. : *Advanced Educational Psychology*, Prentice Hall of India Ltd., New Delhi, 2002.
10. Panda, K.C. : *Education of Exceptional Children*, Vikas Publishing House Pvt. Ltd., New Delhi, 2003.

ADULT EDUCATION
B.A. (GENERAL) SECOND YEAR EXAMINATION
Semester –III

| | | |
|----------------------------|----------|-----------------|
| Max Marks | : | 50 Marks |
| Theory | : | 45 Marks |
| Internal Assessment | : | 05 Marks |
| Time | : | 03 Hours |

| | | |
|----------------------------|----------|-----------------|
| Max Marks | : | 50 Marks |
| Practical | : | 45 Marks |
| Internal Assessment | : | 05 Marks |
| Time | : | 03 Hours |

GENERAL INSTRUCTIONS FOR THE PAPER SETTER.

The question paper will consist of five units. Unit I, II, III & IV will have 2 questions in each unit from the syllabus out of which students have a choice to attempt 1 question in each unit. Unit V is compulsory. It will consist of 3 questions and will cover the entire syllabus uniformly. Each short question in Unit V will carry 3 marks (3X3=9). All units (I, II, III , IV, V) are of 9 marks each (9X5=45).

GENERAL INSTRUCTIONS FOR THE CANDIDATE.

The students will be required to attempt at least one question from each unit I, II, III and IV. Unit V is compulsory and it will consist of 3 questions and will cover the entire syllabus uniformly. All questions carry equal marks.

OBJECTIVES OF THE COURSE:

The main objectives of the paper are:

1. To acquaint students with the psychology of adult learner and the strategies employed to motivate them.
2. To impart knowledge to students on adult characteristics and their psychology.
3. To impart knowledge on suitability of teaching- learning material and audio visual material used by new –Literates, Prerakes and Nodal Prerakes.
4. To acquaint students with various agencies involved in adult education program.
5. To provide knowledge to students regarding concept, need, methods and procedures involved in monitoring process.
6. To impart knowledge to students on the concept, meaning, scope and significance of Adult Education.
7. To acquaint students with the knowledge, how adult education play an important role in social and economic development

Unit-I

- Characteristics of Adult and Psychology of Adult Learners involved in Adult Literacy Program, Learning Styles and Learning Principles.
- Adult Education in Modern Society: Goals, Work-based Adult Education.
- Role of Motivational Strategies in Adult Educational Program.
- Adult Education for Equity and Social Transformation.

Unit-II

- Suitability of Teaching – Learning and Audio- Visual Material used for Neo-Literates.
- Low Cost Teaching Aids, Skill in using Aids, Literacy and Numeracy Games,
- Recruitment of Prerak and Nodal Preraks, Training program, Production of Literature.
- Role of Play and Simulation.
- Suitability of Training Material for Preraks and Nodal Preraks.

Unit-III

- Agencies of Adult Education: Government and Private.
- Indian Adult Education Association: Its Role in Promotion of Adult Education Programme and Research.
- Monitoring of Adult Education Program: The Paradigm Content, General Consideration, Need for Monitoring.
- Evaluation of Adult Learners and Adult Literacy Programme.

Unit-IV

- Meaning of Adult Education, its Scope, Aims and Significance.
- Role of Mass-Media in Adult and Continuing Education and Life Long Learning.
- Role of Adult Education in Social, Community and Economic Development.

Practical/ Field Work:

| | |
|-------------|-----------|
| Max Marks : | 50 Marks. |
| External : | 45 Marks. |
| Internal : | 05 Marks. |

Participation of the Students in the following:

1. Survey of the Area- A brief report.
2. Planning and Organization of Awareness Generating Activities for Adults.

Books Recommended:

1. Datta, S.C. : Adult Education in India, Indian Adult Education Association, New Delhi, 1986.
2. Directorate of Adult Education : The National Adult Education Programme, 1978.
3. Directorate of Adult Education, : Training of Adult Education Functionaries I-4, D.A.E., 1980
Ministry of Education, Govt. of India.
4. Directorate of Adult Education : Fifty years of Adult Education in India.
5. Dept. of Education, Ministry of : National Literacy Mission, 1988.
Human Resource Development
Govt. of India
6. Kundu, C.L. : Adult Education : Principles, Practices and Prospects sterling
Publishers, Delhi, 1984.
7. Mali, M.G. : Adult Education in India, Deep and Deep Publication,
New Delhi, 1984.
8. Mathur, B.M. : Adult Education & Social Change, The Associated
Publishers, Ambala Cantt., 1989.

9. Pangotra, N.N. : Adult Education & Social Change, The Associated Publishers, Ambala Cantt., 1989.
10. Sharma, I.P. : Adult Education in India, National Book Organization, 1985
11. Singh, Sohan : History of Adult Education, The Indian Adult Education Association, New Delhi, 1957.
12. Styler, W.E. : Adult Education in India, Oxford University Press, 1986.
13. Yadav, R.S. : Adult Education Training & Productivity. The Indian publications, Ambala Cantt., 1991.
14. N. Markandan : Village Planning Committee Origin and Evolution, Gandhigram Rural Institute (Deemed University, Gandhigram, Tamil Nadu, 1986.
15. R.Rengasamy : A Hand Book on Post Literacy and Follow up Madurai Kamaraj University, Madurai-625002, 1985.
16. J.C. Saxena : Role of Adult Education and Mass Media for Civic Education
J.L. Sachdeva Indian Adult Education Association, New Delhi, 1986
17. S.R.Ranganathan : Literature for Neo-Literates,
Indian Adult Education Association, New Delhi, 1966
18. S.R. Ranganathan : Human Values in Adult Education, Indian Adult Education
N.D. Godbole Association, R.M. Chetsingh Delhi, 1958.
Kesari Hanuman
19. S.C. Dutta & : Training of Adult Educators, Shakuntala Publishing House,
H.J. Fischer Bombay-1972.
20. R.Rangasamy & : Teaching AIDS for Adult Education, Madurai Kamaraj
S. Raju University
22. S. Mohanty : Lifelong and Adult Education, APH Publishing Corporation,
Ansari Road, Darya Ganj, New Delhi, 2007
22. S.Sohan Singh : Adult Education in Community Development- Indian Adult
Meher C. Nanavatty Education Association, 30, Faiz Bazar, Delhi, 1956.
Mrs. Welthy Fisher
S.C. Dutta
23. Arvinda Chandra : Non-Formal Education For All, Sterling Publishers Pvt. Ltd. &
Anupama Shah Delhi, 1987
24. R.P. Singh : Non-Formal Education- An Alternative Approach, Sterling
Publishers Pvt. Ltd., Delhi, 1987
25. J.L. Sachdeva : Non-Formal Adult Education for Women, Indian Adult
& Asha Vohra Education Association, New Delhi, 1985

26. S.R. Mohsini : Towards A Comprehensive Adult Education programme
J.L. Sachdeva Indian Adult Edu. Association, New Delhi, 1983.
Asha Sehgal
27. Avabai B. Wadia : Population Education for the Younger Generation- Family
Planning Association of India, Bombay, 1968
28. J.K. Friesen : University Adult Education- Indian Adult Education
S.C. Dutta Association, New Delhi, 1985

ADULT EDUCATION
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024
Semester –IV

| Theory | | Time | Practical | |
|---------------|---------------------|-------------|------------------|---------------------|
| Marks + | Internal Assessment | 3 Hours | Marks + | Internal Assessment |
| 45 + | 05 | | 45 + | 05 |

GENERAL INSTRUCTIONS FOR THE PAPER SETTER :

The question paper will consist of five units. Unit I, II, III & IV will have 2 questions in each unit from the syllabus out of which students have a choice to attempt 1 question in each unit. Unit V is compulsory. It will consist of 3 questions and will cover the entire syllabus uniformly. Each short question in Unit V will carry 3 marks (3x3=9). All units (I, II, III & IV) are of 9 marks (9x5=45).

GENERAL INSTRUCTIONS FOR THE CANDIDATE :

The students will be required to attempt at least one question from each unit I, II, III and IV. Unit V is compulsory and it will consist of 3 questions and will cover the entire syllabus uniformly. All questions carry equal marks.

OBJECTIVES OF THE COURSE :

The main objective of the paper are:

1. To provide an overview on History of Adult Education in India.
2. To impart knowledge to students on various Target Groups involved Under Adult Literacy Programs.
3. To expose students with the Teaching Learning Methodologies for teaching Adults.
4. To acquaint students with the Role and Responsibilities assumed by Preraks and Nodal Preraks.
5. To expose students with Concepts and Strategies involved under Total Literacy Campaign.
6. To acquaint students with the Knowledge of various agencies involved in Adult Education Programs.
7. To expose students with the Preparation and Planning of Continuing Education and Awareness Generating Programs.
8. To impart knowledge to students on Linkage of Adult Education with Development.

THEORY

UNIT-I

- (i) History of Adult Education in India.
- (ii) Target Groups involved under Adult Education Programs.
- (iii) Adult Education in Rural Setup.
- (iv) Adult Education in Modern Society.

UNIT-II

- (i) Methodology of Teaching Adults in Adult Literacy Programs.
- (ii) Role of Library Services in Promotion of Post Literary, Follow-up and Continuing Education.
- (iii) Role of Mass-Media in promotion of Post Literary, Follow-up and Continuing Education.
- (iv) Role of Preraks and Nodal Preraks in Adult Education.

UNIT-III

- (i) Total Literacy Campaign : Its Concept and Strategies.
- (ii) Post Literacy Project: Planning, Administration, Suppression.
- (iii) Agencies Involved under Adult Education : Government and Non-Government.
- (iv) Global Perspectives on Adult Education.

UNIT-IV

- (i) Preparation and Planning of Adult Education Programs: Continuing Education, Awareness Generating Programs, Skill Development and Individual Interest Programs.
- (ii) Adult Education and its Linkage with Development.
- (iii) Life wide Dimension of Life-Long Learning.
- (iv) Governing of Life Long Learning: Private Sector, Quality Assurance Mechanism, Accreditation of Institutions.

| | | |
|-----------|---|----------|
| Max Marks | : | 50 Marks |
| External | : | 45 Marks |
| Internal | : | 5 Marks |

Participation of the Students in the following:

1. Visits to the 5 Government and Non-Government Agencies – A brief Report in the form of file to be submitted in the practical exam.
2. Preparation of Teaching – Learning Aids used for Teaching Adults.

Books Recommended:

1. Datta, S.C. : Adult Education in India, Indian Adult Education Association, New Delhi, 1986.
2. Directorate of Adult Education : The National Adult Education Programme, 1978.
3. Directorate of Adult Education, Ministry of Education, Govt. of India. : Training of Adult Education Functionaries I-4, D.A.E., 1980
4. Directorate of Adult Education : Fifty years of Adult Education in India.
5. Dept. of Education, Ministry of Human Resource Development Govt. of India : National Literacy Mission, 1988.
6. Kundu, C.L. : Adult Education : Principles, Practices and Prospects sterling Publishers, Delhi, 1984.

7. Mali, M.G. : Adult Education in India, Deep and Deep Publication, New Delhi, 1984.
8. Mathur, B.M. : Adult Education & Social Change, The Associated Publishers, Ambala Cantt., 1989.
9. Pangotra, N.N. : Adult Education & Social Change, The Associated Publishers, Ambala Cantt., 1989.
10. Sharma, I.P. : Adult Education in India, National Book Organization, 1985
11. Singh, Sohan : History of Adult Education, The Indian Adult Education Association, New Delhi, 1957.
12. Styler, W.E. : Adult Education in India, Oxford University Press, 1986.
13. Yadav, R.S. : Adult Education Training & Productivity. The Indian publications, Ambala Cantt., 1991.
14. N. Markandan : Village Planning Committee Origin and Evolution, Gandhigram Rural Institute (Deemed University, Gandhigram, Tamil Nadu, 1986.
15. R.Rengasamy : A Hand Book on Post Literacy and Follow up Madurai Kamaraj University, Madurai-625002, 1985.
16. J.C. Saxena : Role of Adult Education and Mass Media for Civic Education
J.L. Sachdeva Indian Adult Education Association, New Delhi, 1986
17. S.R.Ranganathan : Literature for Neo-Literates,
Indian Adult Education Association, New Delhi, 1966
18. S.R. Ranganathan : Human Values in Adult Education, Indian Adult Education
N.D. Godbole Association, R.M. Chetsingh Delhi, 1958.
Kesari Hanuman
19. S.C. Dutta & : Training of Adult Educators, Shakuntala Publishing House,
H.J. Fischer Bombay-1972.
20. R.Rangasamy & : Teaching AIDS for Adult Education, Madurai Kamaraj
S. Raju University
22. S. Mohanty : Lifelong and Adult Education, APH Publishing Corporation,
Ansari Road, Darya Ganj, New Delhi, 2007
22. S.Sohan Singh : Adult Education in Community Development- Indian Adult
Meher C. Nanavatty Education Association, 30, Faiz Bazar, Delhi, 1956.
Mrs. Welthy Fisher
S.C. Dutta
23. Arvinda Chandra : Non-Formal Education For All, Sterling Publishers Pvt. Ltd.
& Anupama Shah Delhi, 1987
24. R.P. Singh : Non-Formal Education- An Alternative Approach, Sterling
Publishers Pvt. Ltd., Delhi, 1987
25. J.L. Sachdeva : Non-Formal Adult Education for Women, Indian Adult
& Asha Vohra Education Association, New Delhi, 1985
26. S.R. Mohsini : Towards A Comprehensive Adult Education programme
J.L. Sachdeva Indian Adult Edu. Association, New Delhi, 1983.
Asha Sehgal

27. Avabai B. Wadia : Population Education for the Younger Generation- Family
Planning Association of India, Bombay, 1968
28. J.K. Friesen : University Adult Education- Indian Adult Education
S.C. Dutta Association, New Delhi, 1985

MUSIC (Vocal)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-III****General Instructions**

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto ten students in one section in practical class.
3. There should not be more than ten students in a batch for practical examination.
4. Harmonium will not be allowed as accompaniment in vocal music, but harmonium can be used while singing Alankars.
5. The candidate can take vocal music along with instrumental music or tabla.
6. The candidate can also take instrumental music along with tabla or Vocal Music.
7. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also to be sent for dealing branch.
8. In all, nine questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.**

Paper-A: THEORY (3 Hours duration) : 45 marks
(Duration 45 minutes 06 practical+ 02 Theory periods per week)

Paper-B: Practical (20 minutes duration) : 45 marks

- | | | |
|----------------|---|----------|
| (i) Viva | : | 35 marks |
| (ii) Harmonium | : | 05 marks |
| (iii) Tabla | : | 05 marks |

Internal Assessment (Theory + Practical) (05 +05) : 10 marks

Total : 100 marks

PAPER-A: THEORY (Duration 45 minutes, 02 Theory periods per week)

Unit-I

1. Brief knowledge of Gram.
2. Kanth Sadhana.
3. Gharana: definition and importance
4. Historical development of North Indian music from 13-15th Century.

Unit-II

- 1 Knowledge of Alap, and its various forms.
- 2 Explain the following: - Upaj, Mukhda, Bol-Baant, Khatka, Murki, Kan.
- 3 Knowledge of Lakshans of Ragas in Modern Period.

Unit-III

- 1 Brief life sketches of the great masters of Music and their contributions.
 - (i) Ustad Alladiya Khan
 - (ii) Pt. Bhimsen Joshi
 - (iii) Sh. Krishan Rao Shankar Pandit.

Unit-IV

- 1 Description and Notations of the prescribed Ragas and Talas : -
 - (i) To write drut khyal in any one of the prescribed ragas :-Malkauns, Bhairav with Alap and Taans
 - (ii) To write prescribed ragas of the syllabus with Alap and Taans
 - (iii) To write the notation of Tala :- Jhaptala, Chartala and Keherva (Single & Double)
 - (iv) To write the description of detailed and non detailed Ragas: Chandrakauns, Kalingda.

NOTE: - Both the questions from this part must contain one notation of Raga alongwith the notation of Talas/ description of Ragas.

Unit-V

1.The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

PAPER-B PRACTICAL (Duration 45 Minutes, 06 practical periods per week)

1. One Drut Khayal in each of the following Ragas with Alaps and Tanas:Malkauns, Bhairav.
2. One lakshana geet/ Sargam geet in any prescribed ragas
3. Ability to play Keherva on Tabla
4. Ability to recite following talas by hand: Jhaptal, Chartala
5. Ability to play on Harmonium at least three alankaras based on Shudh swaras and sing alongwith it.
6. Ability to recognize the prescribed ragas sung by the examiner
7. Knowledge of the following Non-detailed Raga: Ability to sing Aroh, Avroh and Pakad with Tanpura: Chandrakauns, Kalingda.
8. Ability to sing one Drut khayal of your course with harmonium

Books Recommended:

1. *Sangeet Visharad* : Sangeet Karyalaya, Hathras (U.P.).
2. *Rag Parichaya Part II* : H.C. Srivastav, Sangeet Sadan Prakashan, 134, South Malaka, Allahabad.
3. *Sangeet Kaumudi Part IV (Punjabi)* : S.S. Kareer, published by Punjabi University, Patiala.
4. *Hamare Sangeet Ratna* : Sangeet Karyalaya, Hathras (U.P.).
5. *Sangeet Sar Part II* : Mrs. Veena Mankaran, Raj Publishers (Regd.) Adda Tanda, Jalandhar City.
6. *Kramik Pustak Malika Part I to IV* : Pt. V.N. Bhatkhande, Sangeet Karyalaya, Hathras.
7. *Rag–Vigyan Part I to VII* : Pt. V. Patwardhan.
8. *Sangeet Shastra Vigyan* : Panna Lal Madan
9. *Sangeet Kala ka Itihas* : Panna Lal Madan

MUSIC (Vocal)**SEMESTER-IV****General Instructions**

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto ten students in one section in practical class
3. There should not be more than ten students in a batch for practical examination.
4. Harmonium will not be allowed as accompaniment in vocal music, but harmonium can be used while singing Alankars.
5. The candidate can take vocal music along with instrumental music or Tabla.
6. The candidate can also take instrumental music along with Tabla or vocal music.
7. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also to be sent for Dealing Branch.
8. In all, *nine* questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.**

Paper-A: THEORY (3 Hours duration) : 45 marks
(Duration 45 minutes 06 practical+ 02 Theory periods per week)

Paper-B: Practical (20 minutes duration) : 45 marks

- | | | |
|-------|-----------|------------|
| (i) | Viva | : 35 marks |
| (ii) | Harmonium | : 05 marks |
| (iii) | Tabla | : 05 marks |

Internal Assessment (Theory + Practical) (05 +05) : 10 marks

Total : 100 marks

PAPER-A: THEORY (Duration 45 minutes, 02 Theory periods per week)**Unit-I**

1. Historical development (in brief) of North Indian Music during 15th to 17th Century.
2. Brief knowledge of Murchhana.
3. Importance of Notation system.

Unit-II

1. Importance of Tanpura and Sahayak Nada
2. Varieties of Gamak
3. Explain the following :- Meend, Bol-Alap, andolan, boltana, Badhat.

Unit-III

1. Brief life sketches of great masters of music and their contributions:

- i) Ustad Amir Khan Sahib
- ii) Ustad Faiyaz Khan Sahib
- iii) Pt. Onkar Nath Thakur

Unit-IV

1. Description and Notations of the prescribed Ragas and Talas :-

- i) To write in notation a drut khyal in any one of the prescribed Raga of the syllabus:- Bihag, Bhimplasi
- ii) To write in notation a vilambit khyal in any prescribed raga of the syllabus.
- iii) To write the notations of Talas: Roopak, Tilwada & Ektaal (Single & Double)
- iv) To write the description of Ragas :- Non detailed: Maru Bihag, patdeep

NOTE: - Both the questions from this part must contain one notation of Raga alongwith the notation of Talas/ description of Ragas.

Unit-V

1.The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 02 marks each.

PAPER-B PRACTICAL (Duration 45 Minutes, 06 practical periods per week)

1. One Drut Khayal in each of the following Ragas with Alaps and Tanas: Bihag, Bhimplasi.
2. One vilambit Khayal in any of the detailed ragas prescribed in the course with extempore alaps and tanas.
3. Ability to play Ek taal on Tabla
4. Ability to recite following talas by hand: Tilwada, Roopak
5. Ability to play on Harmonium at least three Alankaras based on komal and Teevra Swaras and sing alongwith it.
6. Ability to recognize the prescribed ragas sung by the examiner
7. Knowledge of the following Non-detailed Raga: Ability to sing Aroh, Avroh and Pakad with Tanpura: Maru Bihag, patdeep.
8. Ability to sing one Drut khayal of your course with harmonium

Books Recommended:

1. *Sangeet Visharad* : Sangeet Karyalaya, Hathras (U.P.).
2. *Rag Parichaya Part II* : H.C. Srivastav, Sangeet Sadan Prakashan, 134, South Malaka, Allahabad.
3. *Sangeet Kaumudi Part IV (Punjabi)* : S.S. Kareer, published by Punjabi University, Patiala.
4. *Hamare Sangeet Ratna* : Sangeet Karyalaya, Hathras (U.P.).
5. *Sangeet Sar Part II* : Mrs. Veena Mankaran, Raj Publishers (Regd.) Adda Tanda, Jalandhar City.
6. *Kramik Pustak Malika Part I to IV* : Pt. V.N. Bhatkhande, Sangeet Karyalaya, Hathras.
7. *Rag–Vigyan Part I to VII* : Pt. V. Patwardhan.
8. *Sangeet Shastra Vigyan* : Panna Lal Madan
9. *Sangeet Kala ka Itihas* : Panna Lal Madan

MUSIC (Instrumental)
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024
SEMESTER-III

General Instructions

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be up to ten students in one section in practical class.
3. **There should not be more than ten students in a batch for practical examination.**
4. Harmonium can be used while singing Alankars.
5. In all, *nine* questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.**
6. In Instrumental Music, the candidates have the option to take any one of the following instruments: Sitar, Sarangi, Veena, Sarod, Dilruba, Violin, Guitar, Bansuri, Shahnai, Santoor.
7. The candidate can take vocal music or Tabla along with instrumental music.
8. The candidate can take instrumental music or Tabla along with vocal music.
9. **While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent for dealing branch.**

Paper A : THEORY (3 Hours duration) : 45 marks
(Duration 45 minutes 06 practical + 02 Theory periods per week)

Paper-B: PRACTICAL (20 minutes duration) : 45 marks

(i) Viva : 35 marks
(ii) Harmonium : 05 marks
(iii) Tabla : 05 marks

Internal Assessment (Theory + Practical) (05 +05) : 10 marks

Total : 100 marks

PAPER-A: THEORY (Duration 45 minutes, 02 Theory periods per week)

Unit-I

- 1 Brief knowledge of Gram.
- 2 Gun and Dosh of VadaK.
- 3 Historical development of North Indian Music from 13th to 15th Century

Unit-II

1. Gharana of Instrumental Music (definition and importance)
2. Importance of Alap, and its various forms.
3. Knowledge of Avirbhav and Tirobhav, Alaptav- Bahutav

Unit-III

1. Brief life sketches of the great masters of Music and their contributions.
 - (i) Ustad Inayat Khan
 - (ii) Ustad Allaudin Khan
 - (iii) Pt. Vishnu Digambar Paluskar

Unit-IV

Description and Notation of the prescribed Ragas of Syllabus: -

1. To write one Razakhans/Drut Gat (in any prescribed raga of your course with Toras)
2. Description and notation of Raga:- Bihag, Bhimplasi with todas.
3. Notation of Ekta, Teevra and Rupak tala with dugun layakaries
4. Non detailed Ragas: Maru-Bihag, Patdeep

NOTE: - Both the questions from this part must contain one notation of Raga alongwith the notation of Talas/ description of Ragas.

Unit-V

- 1. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.**

PAPER-B PRACTICAL (Duration 45 Minutes, 06 practical periods per week)

1. One Razakhani (Drut) Gat in each of the following Ragas with Todas and Jhalas :
Bihag, Bhimplasi
2. Knowledge of the following Non-detailed Raga: Ability to sing Aroh, Avroh and Pakad : Maru Bihag, Patdeep
3. Use of one swara meend and kan.
4. Ability to play Teevra on Tabla
5. Ability to sing three alankras of Shudh swaras with the help of harmonium.
6. Ability to demonstrate the following talas by hands in Ekgun and Dugun Layakaries: Ektala, Rupak & Teevra

Books Recommended:

1. *Sangeet Visharad* : Sangeet Karyalaya, Hathras (U.P.).
2. *Rag Parichaya Part II* : H.C. Srivastav, Sangeet Sadan Prakashan, 134, South Malaka, Allahabad.
3. *Sangeet Kaumudi Part IV (Punjabi)* : S.S. Kareer, published by Punjabi University, Patiala.
4. *Hamare Sangeet Ratna* : Sangeet Karyalaya, Hathras (U.P.).
5. *Sangeet Sar Part II* : Mrs. Veena Mankaran, Raj Publishers (Regd.) Adda Tanda, Jalandhar City.
6. *Kramik Pustak Malika Part I to IV* : Pt. V.N. Bhatkhande, Sangeet Karyalaya, Hathras.
7. *Rag–Vigyan Part I to VII* : Pt. V. Patwardhan.
8. *Sangeet Shastra Vigyan* : Panna Lal Madan
9. *Sangeet Kala ka Itihas* : Panna Lal Madan

MUSIC (Instrumental)
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024
SEMESTER-IV

General Instructions:-

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be up to ten students in one section in practical class.
3. There should not be more than ten students in a batch for practical examination.
4. Harmonium can be used while singing Alankars.
5. In all, *nine* questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.**
6. In Instrumental Music, the candidates have the option to take any one of the following instruments: Sitar, Sarangi, Veena, Sarod, Dilruba, Violin, Guitar, Bansuri, Shahnai, Santoor.
7. **While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.**
8. The candidate can take vocal music or Tabla along with instrumental music.
9. The candidate can take instrumental music or Tabla along with vocal music.

Paper-A: THEORY (3 Hours duration) : 45 marks
(Duration 45 minutes 06 practical + 02 Theory periods per week)

Paper-B: PRACTICAL (20 minutes duration) : 45 marks
 (i) Viva : 35 marks
 (ii) Harmonium : 05 marks
 (iii) Tabla : 05 marks

Internal Assessment (Theory + Practical) (05 +05) : 10 marks

Total : 100 marks

PAPER-A: THEORY (Duration 45 minutes, 02 Theory periods per week)**Unit-I**

1. Historical developments in North Indian Music during 15th to 17th Century.
2. Brief knowledge of Murchhana system
3. Classification of Indian Musical Instruments

Unit-II

1. A Study of Shuddh, Chhaya Lag and Sankiran & Parmel Praveshak Ragas
2. Time theory of Indian Ragas
3. Definitions and explanations of the musical terms (not more than 100 words):-
Kampan, Meend, Ghaseet, Zamzama, Krintan

Unit-III

1. Brief life sketches of great masters of music and their contributions:
 - i) Ustad Vilayat Khan
 - ii) Ustad Abdul Halim Zafar Khan
 - iii) Smt. Annapurna Devi Ji

Unit-IV

Description and Notation of the prescribed Raga of syllabus :-

- i) To write one Maseetkhani Gat (in any prescribed raga of your course.
- ii) To write the notation of Razakhani/Drut Gat of with Toras: Raga Madhuwanti, Hamir
- iii) To write the notation of Sultal and Dhamar with dugun
- iv) Non-detailed Ragas: Multani, Chhayanaat

NOTE: - Both the questions from this part must contain one notation of Raga alongwith the notation of Talas/ description of Ragas.

Unit-V

1. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carrying 01 marks each.**

PAPER-B PRACTICAL (Duration 45 Minutes, 06 practical periods per week)

1. One Maseetkhani Gat in any raga from your course
2. One Razakhani/ Drut Gat in each of the following Ragas with Todas and Jhalas:- Hamir, Madhuwanti.
3. One Madhya laya gat with alap and todas in any prescribed raga other than teentala.
4. Knowledge of the following Non-detailed Raga: Aroh, Avroh and Pakad : Multani, Chhayanaat
5. Use of two swara meend and kan.
6. Ability to play Jhaptala on Tabla
7. Ability to sing three alankars of komal and teevra swaras with the help of harmonium.
8. Ability to demonstrate the following talas by hands in Ekgun and Dugun Layakarries: Dhamar & Sultaal.

Books Recommended:

1. *Sangeet Visharad* : Sangeet Karyalaya, Hathras (U.P.).
2. *Rag Parichaya Part II* : H.C. Srivastav, Sangeet Sadan Prakashan, 134, South Malaka, Allahabad.
3. *Sangeet Kaumudi Part IV (Punjabi)* : S.S. Kareer, published by Punjabi University, Patiala.
4. *Hamare Sangeet Ratna* : Sangeet Karyalaya, Hathras (U.P.).
5. *Sangeet Sar Part II* : Mrs. Veena Mankaran, Raj Publishers (Regd.) Adda Tanda, Jalandhar City.
6. *Kramik Pustak Malika Part I to IV* : Pt. V.N. Bhatkhande, Sangeet Karyalaya, Hathras.
7. *Rag–Vigyan Part I to VII* : Pt. V. Patwardhan.
8. *Sangeet Shastra Vigyan* : Panna Lal Madan
9. *Sangeet Kala ka Itihas* : Panna Lal Madan

Music (Tabla)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-III****General Instructions:-**

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. In all, nine questions will be set from the whole syllabus of Semester-III. The question paper will be divided into five units. First four units contain 02 questions each, out of which the candidates are to attempt one question from each unit, unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions carrying 01 marks each.
3. Harmonium/ Sarangi will be allowed to play Nagma/Lehra. No electronic Lehra machine will be allowed for practical examination.
4. Practical Paper shall be set from the syllabus for Paper-B (Practical).

Paper-A : THEORY (3 Hours duration) : 50 marks

Paper-B : PRACTICAL (20 minutes duration) : 50 marks

- | | | | |
|-------|-----------------|---|----------|
| (i) | Viva | : | 35 marks |
| (ii) | Harmonium | : | 05 marks |
| (iii) | Tabla (Tuning) | : | 05 marks |
| (iv) | Padhant on Hand | : | 05 marks |

Total :

 100 marks

Paper-A : THEORY**UNIT-I**

1. Origin of Tala
2. Classification of musical instruments.
3. Study of Delhi Gharana

UNIT-II

1. Elementary knowledge of the following musical terms (not more than 100 words)
Mukhda, Tihai, Mohra, Uthan
2. Study of das Pranas of Taal
3. Classification of Taal (Margi & Deshi)

UNIT-III

1. Life sketches and contributions of the following:-
 - a. Ustad Amir Hussain Khan
 - b. Ustad Bahadur Singh
 - c. Abdul Latif Ahmad Khan

UNIT-IV**Detailed Study of the Following Taals :**

1. Jhaptaal, Rupak and Sultaal
2. To write the description of Taals of your course
3. To write the notation of Taal in Single, Double, Tigun & Chougun

UNIT-V

1. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions carrying 01 marks each.**

Paper-B: PRACTICAL

1. Proper Badhat of following Talas on Tabla : Jhaptal, Sultal, Rupak
2. Improvisation of laggi in Keherva
3. Jhaptal- Peshkar, Two Palatas, Two quaida and Two Palatas, One simple Tukra
4. Sultal – Thah, Dugun & Chaugun
5. Practical Knowledge of Khemta Taal
6. Ability to play Nagma on Harmonium in Jhaptal
7. Tuning of Tabla

Books Recommended:

- | | | |
|--------------------------------|---|-----------------------------|
| 1. Taal Prabhakar Prashnottari | : | G.C. Srivastava |
| 2. Tabla Tarang | : | B.S. Nigam |
| 3. Taal Prakash | : | Sangeeta Karyalaya, Hathras |
| 4. Avanaddha Vadya | : | M.P. Sharma |
| 5. Hamare Sangeet Ratan | : | Sangeet Karyalaya, Hathras. |
| 6. Tabla ki Utpatti Evam Vikas | : | Yogmaya Shukla. |
| 7. Tabla Vadan Part-I | : | Jagmohan Sharma |
| 8. Taal Parichay Part-I | : | G.C. Srivastava |

Music (Tabla)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-IV****General Instructions:-**

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. In all, nine questions will be set from the whole syllabus of Semester-IV. The question paper will be divided into five units. First four units contain 02 questions each, out of which the candidates are to attempt one question from each unit, unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions carrying 01 marks each.
3. Harmonium/ Sarangi will be allowed to play Nagma/Lehra. No electronic Lehra machine will be allowed for practical examination.
4. Practical Paper shall be set from the syllabus for Paper-B (Practical).

Paper-A : THEORY (3 Hours duration) : 50 marks

Paper-B : PRACTICAL (20 minutes duration) : 50 marks

(i) Viva : 35 marks

(ii) Harmonium : 05 marks

(iii) Tabla (Tuning) : 05 marks

(iv) Padhant on Hand : 05 marks

Total : 100 marks

Paper-A : THEORY**UNIT-I**

1. Laya and Layakaries
2. Folk Taal instruments of Punjab.
3. Brief description of Pt. V.D. Pulaskar Taal notation system.

UNIT-II

1. Elementary knowledge of the following :
Rela, Paran, Gat, Kayda, Chakrdar Paran
2. Elementary knowledge of karnatka Taal system
3. Study of Ajarada Gharana

UNIT-III

1. Life sketches and contributions of the following:-
 - a. Ustad Habibuddin Khan
 - b. Ustad Natthu Khan
 - c. Pt. Kanthe Maharaj

UNIT-IV

1. Tivra, Rupak, Aada-Chartaal
2. To write descriptions of Taals of your syllabus
3. To write the notation of Taal in Single, Double, Tigun, Chougun and aad

UNIT-V

1. **The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.**

Paper-B: PRACTICAL

1. Proper Badhat of following Talas on Tabla :Rupak, Tivra, Ada-chartaal.
2. Improvisation of laggi in Dadra
3. Rupak- Peshkar, Two Palatas, One quaida and two Paltas, One Mohra
4. Teental – Two Rela with Two Paltas, Two Charkraddar Paran, One Charkrdaar Tukra
5. Practical Knowledge of Playing above taalas with vocal & instrumental music performance
6. Ability to play Nagma on Harmonium in Rupak
7. Tuning of Tabla

Note:- It is understood that candidate must have knowledge of tala of Semester 3rd also.

Books Recommended:

1. Taal Prabhakar Prashnottari : G.C. Srivastava
2. Tabla Tarang : B.S. Nigam
3. Taal Prakash : Sangeeta Karyalaya, Hathras
4. Avanaddha Vadya : M.P. Sharma
5. Hamare Sangeet Ratan : Sangeet Karyalaya, Hathras.
6. Tabla ki Utpatti Evam Vikas : Yogmaya Shukla.
7. Tabla Vadan Part-1 : Jagmohan Sharma
8. Taal Parichay Part-I : G.C. Srivastava

Music (Indian Classical Dance)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-III****GENERAL INSTRUCTIONS:**

1. In case of the private candidates, there would be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto ten students in one section in practical class.
3. There would not be more than eight students in a batch for practical examination.
4. No electronic Instruments will be allowed for lehra in practical examination
5. The candidate can take Dance along with Vocal music.
6. The candidate can also take instrumental music with Dance.
7. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.
8. In all, nine questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.

| | | |
|--|---|----------|
| THEORY (Time duration 3 hours) | : | 45 Marks |
| PRACTICAL (20 minutes duration) | : | 45 Marks |
| Internal Assessment (Theory and Practical) (5+5) | : | 10 Marks |

Paper-A: THEORY**Unit-I**

1. Definition of the following:
Kasak-Masak, Bhramari, Chari, Stuti
2. Present status of Kathak Dance.
3. Survey of essential characteristics of Manipuri Dance.

Unit-II

1. Life Sketch of Pt. Shambhu Maharaj
2. Importance of Gayan and Vadan in Kathak Dance
3. Guru Shishya Parampara.

Unit-III

1. Comparison of Classical and Folk Dance.
2. Folk Dance of Himachal.
3. Brief. Study of Rasa.

Unit-IV

1. Theka and Bol Tatkar in Ekgun, Dugun and Chaugun layakaries of Ada Chautal, Ektaal and Teental
2. Notation of Salami, Amad, Tora and Tihai in Ada Chautaal.
3. Notation of Thaat, Amad, Tora and Paran in Teentaal.
4. Write Nagma in Teental and Adachautaal.
5. Theka and Tatkar of Ektaal in Ekgun, Dugun and Chougun layakaries.

Unit-V

- 1 The ninth question of unit v is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions carrying 01 marks each.

Paper-B : PRACTICAL**I. Ada Chautal:**

1. Theka and Tatkar with Ekgun, Dugun and Chaugun Layakaries.
2. Salami : 1
3. Tora : 2
4. Amad : 1
5. Nagma : 1
6. Tihai : 1

II. Teentaal

1. Tatkar with Ekgun, Dugun and Chaugun Layakaries
2. Thaat : 1
3. Amad : 1
4. Tora : 2
5. Paran : 2
6. Nagma : 1

III Ektaal:

1. Theka with Ekgun and Dugun Layakari
2. Tatkar with Ekgun and Dugun Layakari
3. One Gat of Ghunghat
4. Practice of entire technical part in prescribed Tals on hand
5. Ability to play Nagma in teentaal
6. Theka of Ektaal in Ekgun Layakari on hand
7. Practical Demonstration of Gidda.

Music (Indian Classical Dance)**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-IV****General Instructions:**

1. In case of private candidates, there would be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto ten students in one section in practical class.
3. There would not be more than eight students in a batch for practical examination.
4. No electronic instruments will be allowed for lehra in practical examination.
5. The candidate can take Dance music along with vocal music.
6. The candidate can also take instrumental music with Dance.
7. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.
8. In all, nine questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.

| | | |
|--|---|----------|
| THEORY (Time duration 3 hours) | : | 45 Marks |
| PRACTICAL (20 minutes duration) | : | 45 Marks |
| Internal Assessment (Theory and Practical) (5+5) | : | 10 Marks |

Paper-A: THEORY**Unit-I**

1. Definition of the following:
Gati, Paran, Tisrajali Paran, Chatusrajati Paran, Premlu.
2. Brief knowledge of Kathakali.
3. Importance of Ghungroo in Kathak Dance

Unit-II

1. Gharanas of Kathak Dance and their comparison
2. Merits and demerits of Kathak Dance
3. Contribution of Pt. Rajender Gangani ji in the field of Kathak Dance

Unit-III

1. Knowledge of thumri
2. Knowledge of Chhau Nritya.
3. Knowledge of different Instruments used in Kathak Dance.

Unit-IV

1. Notation of Theka and Bol-Tatkar in Ekgun, Dugun and chaugun layakaries in Ada chautaal, Teentaal and Ektaal.
2. Notation of Chakardar Tora Chakardar paran, Kavita, Tihai and Nagma in Teentaal.
3. Write Tihai, Thaat, Paran, Chakardar Paran, Kavita and Nagma.in Ada Chautal
4. Theka of Ektaal in Ekgun, Dugun and Chaugun layakaries with Tihai, Tora and Amad.

Unit-V

1. The ninth question of unit v is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

Paper-B: PRACTICAL**I. Adachautal :**

- | | | |
|---|---|---|
| 1. Tatkar with Ekgun, Dwigun and Chaugun Layakari | | |
| 2. Paran | : | 1 |
| 3. Chakardary Paran | : | 1 |
| 4. Thaat | : | 1 |
| 5. Tihai | : | 1 |
| 6. Kavita | : | 1 |
| 7. Nagma | : | 1 |

II. Teentaal :

- | | | |
|---|---|---|
| 1. Tatkar with Ekgun, Dugun, Chaugun and Athgun layakaries. | | |
| 2. Kavita | : | 1 |
| 3. Chakardar Tora | : | 1 |
| 4. Chakardar Paran | : | 1 |
| 5. Tihai | : | 1 |
| 6. Nagma | : | 1 |

III Ektaal

- | | | |
|--|---|---|
| a. Tatkar with Ekgun, Dugun and Chaugun Layakari | : | 1 |
| b. Amad | : | 1 |
| c. Tora | : | 1 |
| d. Tihai | : | 1 |

IV One Gat Nikas of Mataki**V. Padhant of above mentioned technical terms in teen taal and Ada Chautaal and Ektal on hand****VI. Ability to play Nagma in Ada Chautaal****VII. Theka in Ekgun and Dugun Layakaries of above mentioned taals.****VIII. Practical Demonstration of a Bhangra steps.**

FINE ARTS**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-III****Paper A : Theory (History of Art)****Max. Marks : 54****Time :3 Hours****Objectives :**

The aim of the paper is to introduce to the students various schools, styles and phases of the developments in painting and sculpture in India and the West. The emphasis will be to make them aware of the different terms, concepts, forms and subject matter of these works.

INSTRUCTIONS FOR PAPER SETTER AND CANDIDATES:

1. The paper carries **54** marks.
2. The paper-setter is required to **set 9 questions in all**. The candidate is to **attempt 5 questions** as per the instructions given in the question paper.
3. The **first question** shall be of short answer type **containing 12 questions** spread over the whole syllabus. Students are required to **attempt 9 questions**. Each question is to be answered in about 25-30 words. It shall **carry 18 marks** and shall be a **Compulsory** question.
4. **8 questions** are to be set from the entire syllabus consisting of **4 units**. Two questions will be set from each unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from each unit. So in all, the candidate shall **attempt 4 questions** in all out of 8 questions. Each question would be of **9 marks**.

Unit-I : History of Indian Painting

- Western Indian Minitaure Painting -- Decorative Designs and Paintings of the 1439 Kalpasutra Manuscript.
- Pre Mughal Paingting -- Chaurapanchashika and Nimat Nama Manuscript Paintings

Unit-II : History of Indian Sculpture

- Gandhara –Fasting Buddha and Mahaparinirvana of Buddha
- Mathura –Portraits of the Kushana Kings.
- Sarnath –Seated Buddha.
- Sultanganj –Bronze Buddha.

Unit-III : History of Western Art

- Early Renaissance : Masaccio-Expulsion; Holy Trinity.
- High Renaissance: Leonardo Da Vinci – Last Supper; Michelangelo—Creation of Adam from the Sistine ceiling; Pieta.
- Northern Renaissance : Durer – Knight, Death and the Devil.

Unit-IV : Definition of Key Terms and General Concepts

- Composition – Volume, Texture, Space, Unity, Harmony, Rhythm, Proportion.
- Six Limbs of Indian Painting.

Pedagogy : The students are expected to familiarize themselves with the art forms as seen from the books, slides and related films. Visits to Museums, exhibitions and art galleries are a part of study.

Suggested Readings :

1. Kramrisch, Stella : Survey of Painting in the Deccan, Oriental Books Corporation, New Delhi, 1983.
2. Majumdar, R.C. (editor) : The History and Culture of Indian People, Vol. I, II and III (Sculpture and Painting Sections only) Bhartiya Vidya Bhawan Bombay, 1996, 1990, 1988.
3. Rowland, Benjamin : The Art and Architecture of India, Penguin Books, Great Britain, 1959.
4. Saraswati, S.K. : A Survey of Indian Sculpture, Munshiram Manoharlal Publishers Pvt. Ltd., New Delhi, 1975.
5. Ray, N.R. : An Approach to Indian Art, Publication Bureau, Panjab University, Chandigarh, 1974.
6. Barrett, D. and Gray, B. : Painting of India, The World Publishing Co., Ohio, 1963.
7. Brown, Percy : Indian Painting under the Mughals, Cosmo Publications, New Delhi, 1981.
8. Aggarwala, V.S. : Heritage of Indian Art, Publications Division, Ministry of Information & Broadcasting, Govt. of India, New Delhi, 1976.
9. Aggarwala, V.S. : Indian Art (English), Varanasi, 1965.
10. Aggarwala, V.S. : Bhartiya Kala (Hindi), Prithvi Prakashan, 1977.
11. Read, Herbert : Meaning of Art, Faber & Faber, London, 1972.
12. Janson, H.W. : History of Art, Thames & Hudson, London, 2001.
13. Gardener, Helen : Art Through the Ages, Harcourt Brace & Co., U.S.A., 1991.
14. Gombrich, E.H. : The Story of Art, Phaidon Press Limited, New York, 1995.
15. Arnason, H.H. : A History of Modern Art, Thames & Hudson, London, 1988.

Paper-B : PRACTICAL

This paper consists of **three sections** :

| | <i>Max. Marks</i> | <i>Max. Time</i> |
|---|-------------------|------------------|
| 1. Landscape Painting (on the spot) | 30 | 5 hours |
| 2. Life Sketching | 30 | 5 hours |
| 3. Poster & Book Cover Design or Clay Modelling | 30 | 5 hours |

Total : 90 marks

Note : The paper-setter is required to set papers in all three options in Section-3.

SECTION-I : LANDSCAPE PAINTING (on the spot)

LANDSCAPE PAINTING : To study relationships of objects, their arrangements in the foreground, middle distance and distance, texture, relative size of masses, tones and colours, use of linear and aerial perspective.

Medium : Oil, Water or Pastel colours.

Size : ½ Imperial.

SECTION-II : LIFE SKETCHING

LIFE SKETCHING : From live Model or Cast-Monochrome in any medium, ½ Imperial Sheet.

Emphasis should be on structure, proportion, foreshortening, textural values, posture and individuality of the model.

SECTION-III : POSTER & BOOK COVER DESIGN OR CLAY MODELLING**POSTER :**

Commercial and advertising designing.
Understanding of Colour harmony and contrast.
Imparting understanding of Printing purposes.

BOOK COVER DESIGN :

Concept of Lettering : Block lettering, Roman lettering, Script lettering and free hand brush lettering. To design book cover with illustration and title, author's name etc. in three colours (excluding the background colour)

Medium : Pen & Ink, Poster Colours.

Size : 25 cms. × 20 cms.

OR

CLAY MODELLING :

To render animal or human forms in clay in relief. Minimum number of three forms to be composed. Size of slab minimum 30 cms × 25 cms. Creative Pottery—Creative Pot making in clay—any size.

SESSIONAL MARKS : 50 (based on work related equally to 3 sections).

Sessional Marks will be given on the basis of the work done during the session, in all the 3 sections. At least three works will be submitted in each section. Sessional marks shall be given by external and internal examiners jointly. In case of difference of opinion, marking may be done separately by each examiner giving marks out of 50 % of the aggregate of the Sessional Marks.

- NOTE :**
1. Choice of option to be offered would depend on the facility available in each Institution concerned.
 2. Minimum of 9 hours' teaching per week be assigned to the subjects and out of nine hours, six hours be earmarked for practical classes and three hours for theory classes (per week).

FINE ARTS

SEMESTER-IV

Paper A : Theory (History of Art)

Max. Marks : 54

Time : 3 Hours

Objectives :

The aim of the paper is to introduce to the students various schools, styles and phases of the developments in painting and sculpture in India and the West. The emphasis will be to make them aware of the different terms, concepts, forms and subject matter of these works.

INSTRUCTIONS FOR PAPER SETTER AND CANDIDATES:

1. The paper carries **54** marks.
2. The paper-setter is required to **set 9 questions in all**. The candidate is to **attempt 5 questions** as per the instructions given in the question paper.
3. The **first question** shall be of short answer type **containing 12 questions** spread over the whole syllabus. Students are required to **attempt 9 questions**. Each question is to be answered in about 25-30 words. It shall **carry 18 marks** and shall be a **Compulsory** question.
4. **8 questions** are to be set from the entire syllabus consisting of **4 units**. Two questions will be set from each unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from each unit. So in all, the candidate shall **attempt 4 questions** in all out of 8 questions. Each question would be of **9 marks**.

Unit-I : History of Indian Painting

- Mughal Paintings of Hamza-Nama ; South Kensington Akbar Nama ; Jahangiri Portraits and illustrations of birds and animals.
- Deccani Paintings –Tarif-i-Hussain-Shahi from Ahmednagar ; Najam-ul-Ulum from Bijapur.

Unit-II : History of Indian Sculpture

- Deogarh –Vishnu Anantashayana.
- Ellora—Ravana Shaking Mount Kailasha.
- Mahabalipuram –Descent of Ganges (Kiratarjuniyam panel).

Unit-III : History of Western Art

- Baroque : Rubens –Garden of Love.
- Neo-Classicism and Romanticism : David –The Death of Socrates; Constable-The Haywain.
- Realism : Courbet –Artist’s Studio.

Unit-IV : Definition of Key Terms and General Concepts

- Art and Craft ; Design ; Mosaic ; Tribal Art ; Folk Art ; Piece-mould ; Waste-mould.

Pedagogy : The students are expected to familiarize themselves with the art forms as seen from the books, slides and related films. Visits to Museums, exhibitions and art galleries are a part of study.

Suggested Readings :

1. Kramrisch, Stella : Survey of Painting in the Deccan, Oriental Books Corporation, New Delhi, 1983.
2. Majumdar, R.C. (editor) : The History and Culture of Indian People, Vol. I, II and III (Sculpture and Painting Sections only) Bhartiya Vidya Bhawan Bombay, 1996, 1990, 1988.
3. Rowland, Benjamin : The Art and Architecture of India, Penguin Books, Great Britain, 1959.
4. Saraswati, S.K. : A Survey of Indian Sculpture, Munshiram Manoharlal Publishers Pvt. Ltd., New Delhi, 1975.
5. Ray, N.R. : An Approach to Indian Art, Publication Bureau, Panjab University, Chandigarh, 1974.
6. Barrett, D. and Gray, B. : Painting of India, The World Publishing Co., Ohio, 1963.
7. Brown, Percy : Indian Painting under the Mughals, Cosmo Publications, New Delhi, 1981.
8. Aggarwala, V.S. : Heritage of Indian Art, Publications Division, Ministry of Information & Broadcasting, Govt. of India, New Delhi, 1976.
9. Aggarwala, V.S. : Indian Art (English), Varanasi, 1965.
10. Aggarwala, V.S. : Bhartiya Kala (Hindi), Prithvi Prakashan, 1977.
11. Read, Herbert : Meaning of Art, Faber & Faber, London, 1972.
12. Janson, H.W. : History of Art, Thames & Hudson, London, 2001.
13. Gardner, Helen : Art Through the Ages, Harcourt Brace & Co., U.S.A., 1991.
14. Gombrich, E.H. : The Story of Art, Phaidon Press Limited, New York, 1995.
15. Arnason, H.H. : A History of Modern Art, Thames & Hudson, London, 1988.

Paper-B : PRACTICAL

This paper consists of **three sections** :

| | <i>Max. Marks</i> | <i>Max. Time</i> |
|---|-------------------|------------------|
| 1. Landscape Painting (on the spot) | 30 | 5 hours |
| 2. Life Sketching | 30 | 5 hours |
| 3. Poster & Book Cover Design or Clay Modelling | 30 | 5 hours |

Total : 90 marks

Note : The paper-setter is required to set papers in all three options in Section-3.

SECTION-I : LANDSCAPE PAINTING (on the spot)

LANDSCAPE PAINTING : To study relationships of objects, their arrangements in the foreground, middle distance and distance, texture, relative size of masses, tones and colours, use of linear and aerial perspective.

Medium : Oil, Water or Pastel colours.

Size : ½ Imperial.

SECTION-II : LIFE SKETCHING

LIFE SKETCHING : From live Model or Cast-Monochrome in any medium, ½ Imperial Sheet.

Emphasis should be on structure, proportion, foreshortening, textural values, posture and individuality of the model.

SECTION-III : POSTER & BOOK COVER DESIGN OR CLAY MODELLING**POSTER :**

Commercial and advertising designing.
Understanding of Colour harmony and contrast.
Imparting understanding of Printing purposes.

BOOK COVER DESIGN :

Concept of Lettering : Block lettering, Roman lettering, Script lettering and free hand brush lettering.
To design book cover with illustration and title, author's name etc. in three colours (excluding the background colour)

Medium : Pen & Ink, Poster Colours.

Size : 25 cms. × 20 cms.

OR

CLAY MODELLING :

To render animal or human forms in clay in relief. Minimum number of three forms to be composed. Size of slab minimum 30 cms × 25 cms. Creative Pottery—Creative Pot making in clay—any size.

SESSIONAL MARKS : 50 (based on work related equally to 3 sections).

Sessional Marks will be given on the basis of the work done during the session, in all the 3 sections. At least three works will be submitted in each section. Sessional marks shall be given by external and internal examiners jointly. In case of difference of opinion, marking may be done separately by each examiner giving marks out of 50 % of the aggregate of the Sessional Marks.

- NOTE :**
1. Choice of option to be offered would depend on the facility available in each Institution concerned.
 2. Minimum of 9 hours' teaching per week be assigned to the subjects and out of nine hours, six hours be earmarked for practical classes and three hours for theory classes (per week).

HISTORY OF ART

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024

SEMESTER-III

Max. Marks : 100

Time: 3 Hours

Note:

1. Each paper Carries 100 marks.
2. The paper-setter is required to set 9 questions in all. The candidate is to attempt 5 questions as per the instructions given in the question paper.
3. The first question shall be of short answer type containing 14 questions spread over the whole syllabus. Each question is to be answered in about 25 to 30 words. It shall carry 28 marks and shall be a **Compulsory question**.
4. 8 questions are to be set from the entire syllabus consisting of 4 units. Two questions will be set from each unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from each unit. So in all, the candidate shall attempt 4 questions in all out of 8 questions. Each question would be of 18 marks.

HISTORY OF INDIAN PAINTING (from ca. 9th century to ca. 1800 A.D.) AND SCULPTURE (from ca. 4th century A.D. to ca. 6th century A.D.)

Objectives :

The aim of the paper is to introduce to the students various schools, styles and phases of the developments in painting and sculpture in India. The emphasis will be to make them aware of the different terms, concepts, forms and subject matter of these works.

Unit-I

Development of Miniature Painting :

- (a) Eastern Indian.
- (b) Western Indian.

Unit-II

Painting under the Mughals :

- (a) Akbar.
- (b) Jahangir.
- (c) Shahjahan.

Unit-III

Indian Miniature Painting :

- (a) Rajasthani Schools—Mewar, Bundi, Kishangarh.
- (b) Pahari Schools—Basohli, Guler, Kangra.

Unit-IV**Indian Sculpture in the Classical Phase :**

Sculpture under the Guptas – Mathura, Sarnath, Deogarh, Ajanta.

Pedagogy :

The students are expected to familiarize themselves with the art forms as seen from the books, slides and related films.

Suggested Readings :

1. Kramrisch, Stella : *Survey of Painting in the Deccan*, Oriental Books Corporation, New Delhi, 1983.
2. Majumdar, R.C. (editor) : *The History and Culture of Indian People, Vols. I, II and III* (Sculpture and Painting Sections only) Bhartiya Vidya Bhawan Bombay, 1996, 1990, 1988.
3. Goswamy, B.N. & E. Fischer : *Pahari Masters : Court Painters of Northern India*, Museum Reitberg, Zurich Switzerland, 1992.
4. Khandalvala, Karl : *Pahari Miniature Painting*, The New Book Co. Pvt. Ltd., Bombay, 1958.
5. Rowland, Benjamin : *The Art and Architecture of India*, Penguin Books, Great Britain, 1959.
6. Saraswati, S.K. : *A Survey of Indian Sculpture*, Munshiram Manoharlal Publishers Pvt. Ltd., New Delhi, 1975.
7. Barrett, D. and Gray, B. : *Painting of India*, The World Publishing Co., Ohio, 1963.
8. Brown, Percy : *Indian Painting under the Mughals*, Cosmo Publications, New Delhi, 1981.
9. Aggarwala, V.S. : *Heritage of Indian Art*, Publications Division, Ministry of Information & Broadcasting, Govt. of India, New Delhi, 1976.
10. Aggarwala, V.S. : *Indian Art* (English), Varanasi, 1965.
11. Aggarwala, V.S. : *Bhartiya Kala* (Hindi), Prithvi Prakashan, 1977.

HISTORY OF ART**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024
SEMESTER-IV**

Max. Marks : 100

Time: 3 Hours

Note:

1. Each paper Carries 100 marks.
2. The paper-setter is required to set 9 questions in all. The candidate is to attempt 5 questions as per the instructions given in the question paper.
3. The first question shall be of short answer type containing 14 questions spread over the whole syllabus. Each question is to be answered in about 25 to 30 words. It shall carry 28 marks and shall be a **Compulsory question**.
4. 8 questions are to be set from the entire syllabus consisting of 4 units. Two questions will be set from each unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from each unit. So in all, the candidate shall attempt 4 questions in all out of 8 questions. Each question would be of 18 marks.

HISTORY OF EUROPEAN PAINTING AND SCULPTURE (from 1300 A.D. to ca. 1850 A.D.) and THEORY AND PRINCIPLES OF ART APPRECIATION**Objectives :**

The aim of the paper is to introduce to the students various schools, styles and phases of the developments in painting and sculpture in the West. The emphasis will be to make them aware of the different terms, concepts, forms and subject matter of these works.

Unit-I : History of European Painting and Sculpture

- (a) Early Renaissance–Masaccio, Donatello.
- (b) High Renaissance–Lenoardo Da Vinci, Michelangelo, Raphael, Titian.

Unit-II: Baroque Period

Caravaggio, Rubens, Rembrandt, Bernini, Claude Lorrain.

Unit-III:

- (a) Neo-Classicism and Romanticism–David, Ingres, John Constable, W. Turner.
- (b) Realism–Courbet.

Unit-IV : Theory and Principles of Art Appreciation

- (a) Definition of the term Miniature Painting
- (b) Six limbs of Indian Painting (Shadanga) and their manifestations in actual works.
- (c) Indian concept of primary colours and their symbolic meaning.
- (d) Indian theory of Rasa, Bhava and Beauty.

Pedagogy :

The students are expected to familiarize themselves with the art forms as seen from the books, slides and related films.

Suggested Readings :

1. Janson, H.W. : *History of Art*, Thames & Hudson, London, 2001.
2. Gardner, Helen : *Art Through the Ages*, Harcourt Brace & Co., U.S.A., 1991.
3. Gombrich, E.H. : *The Story of Art*, Phaidon Press Limited, New York, 1995.
4. Turner, Jane (ed.) : *The Dictionary of Art*, Macmillan Publishers Limited, New York, 1996.
5. Aggarwala, V.S. : *Heritage of Indian Art*, Publications Division, Ministry of Information & Broadcasting, Govt. of India, New Delhi, 1976.
6. Aggarwala, V.S. : *Indian Art* (English), Varanasi, 1965.
7. Aggarwala, V.S. : *Bhartiya Kala* (Hindi), Prithvi Prakashan, 1977.
8. Murray, Peter and Linda Murray : *A Dictionary of Art & Artists*, Penguin Reference Book, Great Britain, 1959.
9. Rowland Benjamin (Jr.) : *Art in East and West*, Beacon Press, Toronto, 1964.
10. Ray, Niharjan : *An Approach to Indian Art*, Publication Bureau, P.U., Chandigarh, 1974.
11. Majumdar, R.C. (editor) : *The History and Culture of Indian People*, Vol. I, II and III. (Sculpture and Painting sections only) Bhartiya Vidya Bhawan Bombay, 1996, 1990, 1988.

ANCIENT INDIAN HISTORY, CULTURE & ARCHAEOLOGY**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-III****Paper-III : HISTORY AND CULTURE OF INDIA FROM 320 A.D. TO 650 A.D.**

| | |
|--------------------|------------|
| Max.Marks | : 100 |
| Theory | : 90 Marks |
| InternalAssessment | : 10 Marks |
| Time | : 3Hour |

Objectives :

The main objective of this paper is to make students study the political history and cultural development starting from the Gupta period till the death of Harsha.

Pedagogy of the Course Work :

The students are expected to have an idea of the original sources for the reconstruction of the history of the period. Maps and transparencies should be put to use in class for better understanding by the students.

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

1. The paper-setter is required to set **9** questions in all. All questions shall carry equal marks.
2. The first question shall be of short answer type containing 15 short questions spread over the entire syllabus. The candidate is required to answer any 9 short answer type questions. Each short answer type question shall be of 2 marks **OR** a question on map. The map work shall consist of 12 marks for the map and 06 marks for the explanatory notes.
3. The map question shall have the following topics :
 - (a) Extent of Chandragupta II's empire.
 - (b) Extent of Harsha's empire.
 - (c) Distribution of monuments of the Gupta-Vakataka period.
4. The rest of the paper shall contain 4 Units. The entire syllabus has been divided into 4 Units. The paper-setter shall set 2 questions from each unit and the candidate shall be given internal choice i.e. the candidate shall attempt one question from each unit. Each question shall carry 18 marks.
5. For Private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (5) in the question paper.

UNIT-I

1. (a) Political condition of Northern India on the eve of the rise of the Guptas.
(b) Foundation of the Gupta Empire.
2. The Imperial Gupta rulers : Samudragupta: Chandergupta II and Kumargupta

UNIT-II

1. Decline of the Gupta Empire.
2. The Gupta Administration.
3. Cultural and Economic Achievements during the Gupta period.

UNIT-III

1. The Vakatakas of the Deccan.
2. The Huna Invasions and their impact.

UNIT-IV

1. The Aulikaras of Daspura, the Maukharis and the Later Guptas.
2. The Pushyabhutis of Thanesar : Political and Cultural survey.

Essential Readings :

1. Agrawal, Ashvini : *Rise & Fall of the Imperial Guptas*, Motilal Banarsidass, Delhi, 1989.
2. Altekar, A.S. & Majumdar, R.C. : *The Vakataka-Gupta Age*, rpt., Motilal Banarsidass, Delhi, 2006.
3. Goyal, S.R., : *The Imperial Guptas: A Multidisciplinary Political Study*, Kusum-anjali Book World, Jodhpur, 2005
4. Majumdar, R.C. & Dasgupta, K.K. (Eds.) : *The Comprehensive History of India, Vol. III, Pt. 1*, People Publishing House, Delhi 1981, (Chapters Dealing with the Gupta and the Post Gupta History).

Suggested Readings:

1. Majumdar, R.C. : *Ancient India*, rpt., Manohar, Delhi, 2003.
2. Mookerji, R.K. : *The Gupta Empire*, Motilal Banarsidass, Delhi, 1989.
3. Thaplyal, K.K. : *The Imperial Guptas: A political History*, Aryan Books International, New Delhi, 2012
4. Tripathi, R.S. : *History of Ancient India*, rpt., Delhi, 1977.

ANCIENT INDIAN HISTORY, CULTURE & ARCHAEOLOGY**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-IV****Paper-IV : HISTORY AND CULTURE OF INDIA FROM 650 A.D. TO 1200 A.D.**

| | |
|--------------------|------------|
| Max.Marks | : 100 |
| Theory | : 90 Marks |
| InternalAssessment | : 10 Marks |
| Time | : 3Hours |

Objectives :

The primary objective of this paper is to acquaint the students with the historical development in India after the death of Harsha. A detailed study of the various dynasties ruling in the different parts of our country will be taken up.

Pedagogy of the Course Work :

The students should be given an outline of the original sources which help to reconstruct the history of the period. Slides and transparencies should be used in the class room lectures to help the students to comprehend the developments in different fields.

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

1. The paper-setter is required to 9 questions in all. All questions shall carry equal marks.
2. The first question shall be of short answer type containing 15 short questions spread over the entire syllabus. The candidate is required to answer any 9 short answer type questions. Each short answer type question shall be of 2 marks **OR** A question on map. The map work shall consist of 12 marks for the map and 06 marks for the explanatory notes.
3. The map question shall have the following topics :
 - (a) Extent of Pratihara Empire.
 - (b) Distribution of Temples—Lingaraja, Konark, Jagannath, Kandariya Mahadev, Parsvanath, Lakshman, Osian and Mahabalipuram.
 - (c) Important Centres of Education—Nalanda, Ujjain, Pushpagiri and Nagarjunakonda.
4. The rest of the paper shall contain 4 Units. The entire syllabus has been divided into 4 Units. The paper- setter shall set 2 questions from each unit and the candidate shall be given internal choice i.e. the candidate shall attempt one question from each unit. Each question shall carry 18 marks.
5. For Private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (5) in the question paper.

UNIT-I :

1. Pratiharas
2. Palas

UNIT-II :

1. Paramaras
2. Chahamanas

UNIT-III :

1. Gahadavalas
2. Chandellas

UNIT-IV :

1. Rashtrakutas
2. Cholas.

Essential Readings :

1. Altekar, A.S. : *Rastrakutas and Their Times*, 2nd ed. Oriental Book Agency, Poona, 1967.
2. Bhatia, Pratipal : *The Paramaras*, Munshiram Manoharlal, New Delhi, 1970.
3. Chakravarti, Ranbir : *Exploring Early India upto C. AD 1300*, Machmillan, 2010
4. Majumdar, R.C. : *Ancient India*, rpt., Manohar, Delhi, 2003
5. Majumdar, R.C. : *History & Culture of Indian People*, Vol. IV, *The Age of Imperial Kanauj*, Bhartiya Vidya Bhawan, Bombay, 1955 (Relevant Chapters) Vol. V, *The Struggle for Empire*, Bombay 1957 (Relevant Chapters).

Suggested Readings :

1. Puri, B.N. : *The History of the Gurjara-Pratiharas*, Manohar, Delhi, 1986.
2. Ray, H.C. : *Dynastic History of India*, 2 Vols, Calcutta 1931,1936.
3. Sastri, K.A.N. : *A History of South India*, 4th ed. Oxford University Press, Madras, 1976.
4. Tripathi, R.S. : *History of Kanauj to the Muslim Conquest*, 4th ed., Motilal Banarsidass, Delhi, 1989.

DEFENCE & STRATEGIC STUDIES**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-III****INSTRUCTIONS FOR THE PAPER SETTER AND THE STUDENTS**

- Note :*
1. There will be one-theory paper of 70 marks. The internal assessment will be of 10 marks. The theory paper will have one compulsory short answer type question containing 15 questions of 2 marks each covering the entire syllabus. The candidates will be required to attempt any 10 short answer type questions. In addition to it there will be four sections of the question paper containing 2 questions each. The candidate will be required to attempt one question from each of the four sections. Theory paper will be of three hours duration.
 2. Practical examination will be compulsory for regular and correspondence students. It will be of 20 marks. There will be 3 hours of teaching per week for practical and the number of students in one group shall not ordinarily exceed fifteen.

Paper : EVOLUTION OF WARFARE IN INDIA

M. Marks : 70

Time : 3 Hrs.

Objective :

This paper deals with the salient features of Indian warfare with emphasis on Military Organization, Battle techniques and Leadership.

SECTION-I

1. Battle of Hydaspes and Alexander's Art of War.
2. Kautilya's Philosophy of War.

SECTION-II

3. Military Organizations and Battle Techniques of Rajputs and Turks with particular reference to Battle of Tarrain, 1192 A.D.
4. Military Organizations and Battle Techniques of Mughals and Afghans with particular reference to First Battle of Panipat, 1526 A.D.

SECTION-III

5. Battle techniques of Southern Muslim Sultans with particular reference to Battle of Talikota, 1565 A.D.
6. Military Organization and Battle Techniques of Marathas under Shivaji.

SECTION-IV

1. Military organization and Battle Techniques of Sikh Army under Maharaja Ranjit Singh.
2. Warfare under East India Company with particular reference to Battle of Assaye 1803 A.D. and Chilianwala 1849 A.D.
3. Indian Armed Forces 1858 to 1947: General Evolution and Development (A Broad Perspective).

Books Recommended :

1. Bajwa, F.S., The Military Systems of Sikhs, Motilal Banarsidas Delhi, 1964.
2. Dass, S.T., An Introduction to the Art of War, Sagar Publications, Delhi, 1970.
3. Erskin, Memories of Babur, Biblio Bazaar, 2012.
4. JFC, Fuller, Generalship of Alexander, The Great, Eyre and Spottiswoode, 1958.
5. Kangle, K.P., Kautilya's Arthshastra, Motilal Banarsidas Publishers Pvt. Ltd., Delhi, 1986.
6. Majumdar, B.K., Military Systems in Ancient India, Firma K.L. Mukopadhyay Publishers, Delhi, 1960.
7. Mallesan, Decisive Battle of India, Read Books Design, 2010.
8. Nath, Rajendra, Military Leadership in India, Vedic Period to Indo-Pak Wars, Lancers Books, California, 1990.
9. Sarkar, J.N., Military History of India, Orient Longmans, Virginia, 1960.
10. Sen., S.N., Military System of the Marathas, Orient Longmans, Michigan, 1958.
11. Sharma, Gautam, Indian Army through the Ages, Allied Publishers, University of Michigan, 1966.
12. Singh, Gurcharan, Battles of Panipat, Army Educational Stores, 1966.
13. William, Irvin, Army of the Indian Mughals, Low Price Publishers, 1994.

Paper: **PRACTICAL**

Max. Marks : 20

Time: 1 hrs

Note:

1. There will be of 3 hours of teaching per week for practical. For practical classes, the number of students in one group shall not ordinarily exceed fifteen.
2. Practical exercise should be carried out on drawing sheets with explanatory notes or on computer.

SECTION-A Practical Test

Marks : 10

Note:

1. There will be three questions in all carrying five marks each and candidates will be required to attempt any two questions.
2. Examiners are required to set the question paper at least half an hour before the examination.

Course contents for practical

1. Bearing: Definition, Types and Inter conversion of Bearing in detail.
2. Liquid Prismatic Compass: Features and Functions of its various parts.
3. Determination of Individual Compass Error

SECTION-B

Marks : 10

1. Practical Record Marks : 5
2. Viva Voce Marks : 5

DEFENCE & STRATEGIC STUDIES**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-IV****INSTRUCTIONS FOR THE PAPER SETTER AND THE STUDENTS**

- Note :*
1. There will be one-theory paper of 70 marks. The internal assessment will be of 10 marks. The theory paper will have one compulsory short answer type question containing 15 questions of 2 marks each covering the entire syllabus. The candidates will be required to attempt any 10 short answer type questions. In addition to it there will be four sections of the question paper containing 2 questions each. The candidate will be required to attempt one question from each of the four sections. Theory paper will be of three hours duration.
 2. Practical examination will be compulsory for regular and correspondence students.. It will be of 20 marks. There will be 3 hours of teaching per week for practical and the number of students in one group shall not ordinarily exceed fifteen.

Paper : EVOLUTION OF WARFARE

M. Marks : 70
Time : 3 Hours

SECTION-I

1. Military Organizations and Battle techniques of Macedonians and Persians with particular reference to Battles of Arbella, 331 B.C.
2. Military Organization and Battle Technique of Romans and Carthaginians with particular reference to the Battles of Cannae, 226 B.C.
3. Military Organizations and Battle Techniques of Barbarians with particular reference to Battle of Adrianople, 378 A.D.

SECTION-II

4. Military Organizations and Battle Techniques of the English and French with reference to the Battle of Hastings, 1066 A.D.
5. The Mongol Art of War under Changez Khan and his successors.

SECTION-III

6. Industrial revolution and its Impact on Weapons, Communications and Tactics.
7. Elements and Principles of Napoleonic Warfare.

SECTION-IV

8. Naval Warfare with particular reference to the Battle of Trafalgar, 1805.
9. American Civil War (1861-65) : Causes and Events.

Books Recommended :

1. Barrie and Rackett, The Ancient Art of War Vols. I & II., Barrie and Rockliff, 1957.
2. Bullock, H., Military History of the Western World, Vol. 1, Da Capo Press, 1978.
3. Fuller, JFC, Armament and History, Da Capo Press, New York, 1998.
4. Fuller, JFC, Conduct of War, Eyre & Spottiswoode (Publisher) Ltd., Great Britain, 1962.
5. Fuller, JFC, Machine Warfare, the Infantry Journal, University of Michigan, 1943.
6. Fuller, JFC, Military History of the Western World, Da Capo Press, New York, 1987.
7. Montgomery, F.M., A History of Warfare, World Publication Co. The University of Michigan, 1968.
8. Montress, L., War through the Ages, Harper & Brothers, Indiana University, New York, 1987.

Paper : PRACTICAL

Max. Marks : 20

Time : 1 hrs

Note:

1. There will be 3 hours of teaching per week for practical. For practical classes, the number of students in one group shall not ordinarily exceed fifteen.
2. Practical exercise should be carried out on drawing sheets with explanatory notes or on computer.

SECTION –A : Practical Test**Note:**

1. There will be three questions in all carrying five marks each and candidates will be required to attempt any two questions.
2. Examiners are required to set the question paper at least half an hour before the examination.

Course contents for practical

1. Setting of Map: With Compass and without Compass.
2. Marching by Compass: To set the Compass in a particular direction for Night March.
3. Finding position on the Maps: Determine One's and Enemy's position on the Map by Resection and Intersection method.

SECTION-B

Marks : 10

- | | |
|---------------------|-----------|
| 1. Practical Record | Marks : 5 |
| 2. Viva-Voce | Marks : 5 |

HISTORY

SEMESTER-III

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

1. The syllabus has been divided into four Units.
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each Unit and 4 questions in all. Each question will carry 18 marks.
2. For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
The paper-setter must put note (2) in the question paper.
3. One question from Unit-IV shall be set on the map.

The paper-setter must put note (iii) in the question paper.

Explanation:

1. Each essay type question would cover about one-third to one half of a topic detailed in the syllabus.
2. The distribution of marks for the map question would be as under :

| | |
|------------------|------------|
| Map | : 10 marks |
| Explanatory Note | : 08 marks |

Note: In case, a paper setter chooses to set a question on important historical places, the paper setter will be required to ask the students to mark 05 places on map of 02 mark each and write explanatory note on any 04 of 02 marks each.

3. The paper-setter would avoid repetition between different types of questions within one question paper.

Paper : HISTORY OF INDIA, 1750-1964 A.D.

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hours |

Objectives: To introduce the students to the broad developments in the history of India in Modern times.

Pedagogy : Lectures, library work and discussions.

UNIT-I

1. Foundation of British Rule: Circumstances leading to the battles of Plassey and Buxar and their significance; Reforms of Warren Hastings.
2. Administrative Reforms: Reforms of Cornwallis; William Bentinck and Dalhousie.
3. The Uprising of 1857: Political, socio-religious, economic and immediate causes; failure; results.

UNIT-II

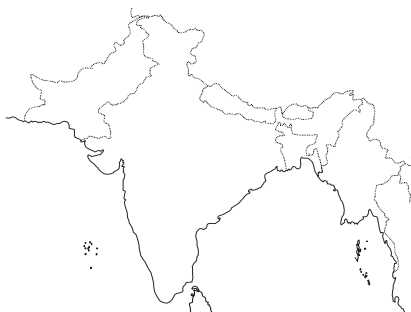
4. Economic Changes and Response: British Agrarian policies and commercialization of agriculture; rural indebtedness; Tribal and Peasant Uprisings w.r.t. Santhal, Bhil, Munda Rebellions.
5. Socio-Religious Reform Movements: Brahma Samaj; Arya Samaj; Ramakrishna Mission; Aligarh Movement.
6. Depressed Classes Movement: Contribution of Jyotiba Phule; Dr.B.R. Ambedkar and Mahatma Gandhi.

UNIT-III

7. Growth of Political Consciousness: Foundation and growth of the Indian National Congress from 1885-1905; Growth of Nationalism 1905-1919
8. Indian National Movement: Circumstances leading to the Non-Cooperation Movement 1920-22; the Civil Disobedience Movement.
9. Rise of Communal Politics: Factors responsible for the growth of communal politics; Separate electorate; Muslim League and Pakistan Resolution.

UNIT-IV

10. Towards Partition and Independence: Quit India Movement; British proposals for independence; Indian Independence Act of 1947.
11. Significant Developments after Independence, 1947- 64 : Making of the constitution; integration of princely states; the reorganisation of states.
12. Map:
 - (a) Important Historical Places – Delhi, Calcutta, Madras, Bombay, Goa, Surat, Plassey, Buxar, Gwalior, Jhansi, Hyderabad, Sabarmati, Amritsar, Lucknow, Lahore and Aligarh.
 - (b) Extent of the British Empire in 1856.
 - (c) Republic of India in 1950.

Specimen Map for Examination:**Reading List:**

- Abdul Kalam Azad, *Azadi Ki Kahani* (Hindi Medium), Delhi: Orient Black Swan, 2007.
- Bandyopadhyay, Sekhar, *From Plassey to Partition: A History of Modern India*, Delhi Orient Black Swan, 2007 (Also available in Hindi Medium).
- Chandra, Bipin, *History of Modern India*, Hyderabad: Orient Blackswan, 2009.
- Chandra, Bipin, *Communalism in Modern India*, Delhi: Vikas Publishers, 1987.
- Chandra, Bipin *et al.*, *India's Struggle for Independence, 1875-1947*, Delhi: Viking/Penguin Books, 1989.
- Chandra, Bipin, *Aitihāsik Sangharsh – EPIC Struggle* (Hindi Medium), Delhi: Orient Black Swan, 2007.

Desai, A R, *Social Background of Indian Nationalism*, Punjabi University, Patiala: Publication Bureau, 2005 (Punjabi).

Nanda, B.R., *Making of a Nation: India's Road to Independence*, New Delhi: Harper-Collins, 1998.

Gopal,S, *British Policy in India*, Punjabi University, Patiala: Publication Bureau, 2011.

Sarkar, Sumit, *Modern India, 1885-1947*, New Delhi: Mcmillan, 2014.

HISTORY

SEMESTER-IV

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES:

1. The syllabus has been divided into four Units.
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each Unit and 4 questions in all. Each question will carry 18 marks.
2. For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
The paper-setter must put note (2) in the question paper.
3. One question from Unit-IV shall be set on the map.

Explanation:

1. Each essay type question would cover about one-third to one half of a topic detailed in the syllabus.
2. The distribution of marks for the map question would be as under :

| | |
|------------------|------------|
| Map | : 10 marks |
| Explanatory Note | : 08 marks |

Note: In case, a paper setter chooses to set a question on important historical places, the paper setter will be required to ask the students to mark 05 places on map of 02 mark each and write explanatory note on any 04 of 02 marks each.

3. The paper-setter would avoid repetition between different types of questions within one question paper.

Paper: HISTORY OF THE PUNJAB, 1469-1966 A.D.

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hours |

Objectives: To introduce the students to the broad developments in the history of the Punjab from the mid 15th to the mid 19th century i.e. the medieval period

Pedagogy: Lectures, library work and discussions.

UNIT-I

1. Foundation of Sikhism: Life and teachings of Guru Nanak Dev; Contribution of Guru Angad and Guru Amar Das for the development of Sikhism.
2. Consolidation of Sikhism: Guru Ram Das and Guru Arjun Dev; Compilation of Adi Granth; Causes and Significance of Martyrdom Guru Arjun Dev.
3. Transformation of Sikhism: Guru Hargobind's new policy; Causes and Significance of Martyrdom of Guru Teg Bahadur; Creation of Khalsa by Guru Gobind and its significance.

UNIT-II

4. Sikh Struggle in the 18th century: Establishment of Independent Rule by Banda Singh Bahadur; Sikh misls, Dal Khalsa and Gurmata.
5. Punjab under Ranjit Singh: Civil, Military and Revenue Administration; Anglo-Sikh relations up to 1839.
7. Modern Punjab: Anglo-Sikh Wars and annexation; New Administrative Structure, 1849-1857.

UNIT-III

8. New British Policies: Education; Irrigation; Transport and Communication.
9. Socio-Religious Reform Movements: Nirankaris; Namdharis; Ad-dharm; Singh Sabha and Ahmediyas.
10. Political Awakening: Agitation of 1907; Gadhar Movement.

UNIT-IV

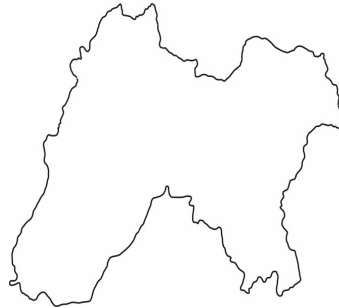
11. Growth of Political Consciousness: Jallianwala Bagh; Bhagat Singh; Gurudwara Reform Movement.
12. Developments from 1947-1966: Circumstances leading to Partition and Rehabilitation; Demand for Punjab Suba.

13. MAP:

Important Historical Places - Anandpur Sahib, Goindwal, Khadur Sahib, Hargobindpur, Kartarpur, Nankana Sahib, Lahore, Mukhlispur, Qadian, Ropar, Amritsar, Lyallpur, Montgomery, Sargodha, Machhiwara, Jaito.

Specimen Map for Examination:

Map for Practice

**Reading List:**

Banerjee, I.B., *Evolution of the Khalsa*, 2 Vols, Calcutta: A Mukherjee & Co., 1979 (2nd edn.).

Banga, Indu (ed.), *Five Punjabi Centuries: Polity, Economy, Society and Culture c. 1500-1900*, New Delhi: Manohar, 1997.

Chopra P.N., B.N. Puri and M.N. Das, *A Social, Cultural & Economic History of India*, Vol. III, Macmillan, Delhi, 1974.

Fauja Singh, *State and Society under Maharaja Ranjit Singh*, Master Publishers, Delhi.

-----, *Freedom Struggle in the Punjab*, Punjabi University, Patiala, 1974.

Grewal, J.S., *The Sikhs of the Punjab: The New Cambridge History of India*, New Delhi: Cambridge University Press, 1999 (2nd edn.).

-----, *The Sikhs of the Punjab*, The New Cambridge History of India, Orient Longman, 1990, Foundation Books, New Delhi, 1994.

Gupta Monica Das, T.N. Krishna & Lincon C. Chen, *Women's Health in India, Risk and Vulnerability*, Oxford, OUP, 1998.

Johar R.S. and J.S Khanna, *Studies in Punjab Economy*, GNDU, Amritsar, 1983.

Khushwant Singh, *A History of the Sikhs*, Vol. II, 1839-1988, Oxford University Press, Delhi, 1991.

McLeod, W.H., *Sikhs and Sikhism*, New Delhi: Oxford University Press, 2000.

Satya, M. Rai, *Heroic Tradition in the Punjab*, 1900-1947, Punjabi University, Patiala, 1978.

Sinha, N.K., *Rise of the Sikh Power*, Calcutta, A Mukherjee & Co., 1973

Teja Singh and Ganda Singh, *A Short History of the Sikhs, 1469-1765*, Vol.I, Patiala : Punjabi University, 1983.

Yadav K.C.and S.M. Fogat, *Haryana Aitihāsik Simhavalokan* (Hindi), Haryana Sahitya Akademy, Chandigarh, 1991.

POLITICAL SCIENCE

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024

SEMESTER-III

INDIAN GOVERNMENT AND POLITICS

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 hours |

Objectives: This paper provides students with a basic knowledge of the fundamental elements and institutions of government, politics and processes in India at both the centre and state levels.

GENERAL INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

(i) *The syllabus has been divided into four units :*

There shall be **9** questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 10-20 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** essay type questions, and the candidate shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.

(ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

Unit-I

1. Basic Features of Indian Constitution.
2. Preamble and its perceptions.
3. Indian Federalism- Meaning & its features.
4. Centre State Relations (Legislative, Administrative & Financial)

Unit-II

1. Fundamental Rights (Art14-Art 32)- Meaning, Explanation, Criticism & Importance.
2. Fundamental Duties- Meaning, Explanation, Evaluation (Criticism & Importance).
3. Directive Principles of State Policy (Art 36- Art 51)- Liberal, Socialist, International, Gandhian- Meaning, Explanation, Sanctions, Criticism & Importance

Unit-III

1. President : Election, powers, position and changing role.
2. Parliament : Composition, powers and role.
3. Cabinet –
 - a) Parliamentary features
 - b) Prime Minister : Election, powers, position and changing role.
4. Supreme Court : Composition, powers & Judicial Review.

Unit-IV

1. Governor : Appointment, powers and role.
2. State Legislature : Composition, powers and role of Legislative Assembly/Vidhan Sabha.
3. Council of Ministers and Chief Minister : Election, powers, position and role.
4. High Court : Composition, powers and its role.

Books Recommended :

1. Rajiv Sikri, *Challenge and Strategy : Rethinking India's Foreign Policy*, Sage Publications, New Delhi, 2009.
2. S.D. Muni, *India's Foreign Policy : The Democracy Dimension*, Foundation Books, Cambridge University Press India, New Delhi, 2009.
3. Sumit Ganguly (ed.), *India's Foreign Policy : Retrospect and Prospect*, OUP, 2009.
4. F.R. Frankel, *India's Political Economy 1947-2004 : The Gradual Revolution*, Oxford, Oxford University Press, 2005.
5. C. Raja Mohan, *Crossing the Rubicon : The Shaping of India's New Foreign Policy*, Palgrave Macmillan, 2004.
6. Zoya Hasan, E. Sridharan and R. Sudarshan (ed.), *India's Living Constitution : Ideas, Practices, Controversies*, Permanent Black, New Delhi, 2004.
7. Zoya Hasan, *Parties and Party Politics in India*, Oxford University Press, New Delhi, 2002.
8. Niraja Gopal Jayal (ed.), *Democracy in India*, Oxford University Press, Delhi, 2001.
9. A.G. Noorani, *Constitutional Questions in India*, Oxford University Press, 2000.
10. G. Austin, *Working a Democratic Constitution : A History of the Indian Experience*, New Delhi, Oxford University Press, 1999.
11. Partha Chatterjee (ed.), *State and Politics in India*, Oxford University Press, 1999.
12. M.V. Pylee, *An Introduction to the Constitution of India*, New Delhi, Vikas, 1998.
13. C.P. Bhambri, *The Indian State Fifty Years*, New Delhi, Shipra, 1997.
14. P. Brass, *Ethnic Groups and the State*, London, Croom Helm, 1995.
15. D.D. Basu, *An Introduction to the Constitution of India*, New Delhi, Prentice Hall, 1994.
16. P. Brass, *Politics of India Since Independence*, Hyderabad, Orient Longman, 1990.
17. R. Kothari, *State Against Democracy : In Search of Human Governance*, Delhi, Ajanta, 1988.
18. P. Brass, *Caste, Faction and Party in Indian Politics, Vol. II : Election Studies*, Delhi, Chanakya Publications, 1985.
19. B.L. Fadia, *State Politics in India, Vol. II*, New Delhi, Radiant Publishers, 1984.
20. M.V. Pylee, *Constitutional Government in India*, Bombay, Asia Publishing House, 1977.
22. P. Brass, *Language, Religion and Politics in North India*, London, Cambridge University Press, 1974.
22. R. Kothari, *Politics in India*, New Delhi, Orient Longman, 1970.
23. R. Kothari, *Party System and Election Studies*, Bombay, Asia Publishing House, 1967.
24. Iqbal Narain (ed.), *State Politics in India*, Meerut, Meenakshi Parkashan, 1967.
25. S.P. Verma, and C.P. Bhambri (ed.), *Election and Politics Consciousness in India*, Meerut, Meenakshi Parkashan, 1967.
26. G. Austin, *The Indian Constitution : Corner Stone of a Nation*, Oxford, Oxford University Press, 1966.

POLITICAL SCIENCE**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-IV****INDIAN POLITICS**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours. |

Objectives :

The aim of this paper is to enrich the student's understanding of the working of the Indian political system with reference to political parties, the party system, elections and voting behaviour. Units III and IV of the paper examine in detail certain key issues and debates in contemporary India.

GENERAL INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

- (i) *The syllabus has been divided into four units :*

There shall be **9** questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 10-20 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** essay type questions, and the candidate shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.

- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

Unit-I

1. Nature of party system in India : A critical evaluation.
2. National Political Parties [Indian National Congress, BJP, CPI, CPI(M), BSP] : Ideology, Policy and Programmes
3. Regional Political Parties (SAD, DMK, AIDMK) : Ideology, Policy and Programmes.

Unit-II

1. The Election Commission : A critical evaluation and electoral reforms in India.
2. Pressure Groups in Indian Politics- Types & Role
3. Voting Behaviour in India – its Determinants.

Unit-III

1. Emerging Trends in Indian Politics.
2. Role of Caste, Religion in Indian Politics.
3. Regionalism in Indian Politics-its causes & impact.

Unit-IV

1. Basic principles and determinants of Indian Foreign Policy.
2. Non-alignment : Meaning and Nature.
3. Non-alignment Movement- its Relevance.

Books Recommended :

1. Rajiv Sikri, *Challenge and Strategy : Rethinking India's Foreign Policy*, Sage Publications, New Delhi, 2009.
2. S.D. Muni, *India's Foreign Policy : The Democracy Dimension*, Foundation Books, Cambridge University Press India, New Delhi, 2009.
3. Sumit Ganguly (ed.), *India's Foreign Policy : Retrospect and Prospect*, OUP, 2009.
4. F.R. Frankel, *India's Political Economy 1947-2004 : The Gradual Revolution*, Oxford, Oxford University Press, 2005.
5. C. Raja Mohan, *Crossing the Rubicon : The Shaping of India's New Foreign Policy*, Palgrave Macmillan, 2004.
6. Zoya Hasan, E. Sridharan and R. Sudarshan (ed.), *India's Living Constitution : Ideas, Practices, Controversies*, Permanent Black, New Delhi, 2004.
7. Zoya Hasan, *Parties and Party Politics in India*, Oxford University Press, New Delhi, 2002.
8. Niraja Gopal Jayal (ed.), *Democracy in India*, Oxford University Press, Delhi, 2001.
9. A.G. Noorani, *Constitutional Questions in India*, Oxford University Press, 2000.
10. G. Austin, *Working a Democratic Constitution : A History of the Indian Experience*, New Delhi, Oxford University Press, 1999.
11. Partha Chatterjee (ed.), *State and Politics in India*, Oxford University Press, 1999.
12. M.V. Pylee, *An Introduction to the Constitution of India*, New Delhi, Vikas, 1998.
13. C.P. Bhambri, *The Indian State Fifty Years*, New Delhi, Shipra, 1997.
14. P. Brass, *Ethnic Groups and the State*, London, Croom Helm, 1995.
15. D.D. Basu, *An Introduction to the Constitution of India*, New Delhi, Prentice Hall, 1994.
16. P. Brass, *Politics of India Since Independence*, Hyderabad, Orient Longman, 1990.
17. R. Kothari, *State Against Democracy : In Search of Human Governance*, Delhi, Ajanta, 1988.
18. P. Brass, *Caste, Faction and Party in Indian Politics, Vol. II : Election Studies*, Delhi, Chanakya Publications, 1985.
19. B.L. Fadia, *State Politics in India, Vol. II*, New Delhi, Radiant Publishers, 1984.

20. M.V. Pylee, *Constitutional Government in India*, Bombay, Asia Publishing House, 1977.
22. P. Brass, *Language, Religion and Politics in North India*, London, Cambridge University Press, 1974.
22. R. Kothari, *Politics in India*, New Delhi, Orient Longman, 1970.
23. R. Kothari, *Party System and Election Studies*, Bombay, Asia Publishing House, 1967.
24. Iqbal Narain (ed.), *State Politics in India*, Meerut, Meenakshi Parkashan, 1967.
25. S.P. Verma, and C.P. Bhambri (ed.), *Election and Politics Consciousness in India*, Meerut, Meenakshi Parkashan, 1967.
26. G. Austin, *The Indian Constitution : Corner Stone of a Nation*, Oxford, Oxford University Press, 1966.

ECONOMICS

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024

SEMESTER-III

Paper : PUBLIC FINANCE AND INTERNATIONAL ECONOMICS

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

Course Objective : The primary course objective is to introduce the students to the basics of public finance and international trade. The first two units aim to introduce students to the primary functions of government to generate resources from the people and to spend money improving their lives. The last two units are concerned with basic theories of international trade and commercial policies, balance of payments, determination of exchange rates and role of international financial institutions.

INSTRUCTIONS FOR THE PAPER-SETTERS AND CANDIDATES :

- (i) *The syllabus has been divided into four units.*

There shall be 9 questions in all. The first question is **compulsory** and shall be short answer type containing 12 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** essay type questions, and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.

- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

Unit-I

Introduction to Public Finance : Nature, Scope and its Importance.

Public Expenditure: Canons, Principle of Maximum Social Advantage, Wagner's Law, Wiseman Peacock Hypothesis. Causes for the Recent Growth of Public Expenditure in India.

Taxation : Classification and Canons, Characteristics of a Good Tax System.

Unit-II

Incidence and Impact of Taxation : Demand and Supply Theory.

Taxable Capacity : Absolute and Relative Capacity, Determinants of Taxable Capacity.

Public Debt : Its types and Role, Burden of debt and Methods of its Redemption.

Deficit Financing : Objectives and Limitations.

Unit-III

Pure Theory of International Trade : Classical and Heckscher - Ohlin Theories, The Theory of Reciprocal Demand.

Terms of Trade : Concept and Types

Commercial Policy : Free Trade Vs. Protection, Regional Blocks: ASEAN, SAFTA Problems and prospects. Impact of W.T.O. on Less Developed Countries.

Unit-IV

Balance of Payments: Meaning, Concept and Components of Balance of Payments. Disequilibrium in the Balance of Payments : Causes and Measures to correct the disequilibrium

Exchange Rate : Meaning and its Determination, Fixed Vs. Flexible Rate of Exchange and Purchasing Power Parity Theory.

IMF and IBRD : Objectives, Working and Achievements.

Recommended Readings :

1. Musgrave, A.R. & Musgrave, P.B. : *Public Finance in Theory and Practice*, McGraw Hills, (2011) International Students' Edition.
2. Kindleberger, C.P. (1987) : *International Economics*, Richard Irwin Homewood, Illinois, Indian Edition
3. Sharma, O.P. : *Sarvjanik Vit*, Punjabi University, Patiala. (latest edition)
4. Ghuman, Ranjit Singh : *Antar-Rashtriya Arth Vigyan*, Punjabi University, Patiala. (latest edition)
5. Soderston B.O. (1994) : *International Economics*, McMillan Press Ltd.

Supplementary Reading :

1. Bhatia, H.L. : *Public Finance*, Vikas Publishing House Pvt. Ltd. (2008)
2. Dalton, H. : *Principles of Public Finance*, Routledge and Kegan Paul, London. (1978)
3. Tyagi, B.P. : *Public Finance*, Jai Prakash Math & Co, Meerut. (1994)

ECONOMICS

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024

Semester-IV

Paper : QUANTITATIVE METHODS

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

Course Objective :

The objective of the course is to train the students in the use of basic mathematical and statistical tools in analyzing various economic phenomenon. It deals with the design of how data is presented, the analysis of the data, and the drawing of conclusions from the data. The course aims to improve decision-making accuracy of the students and enabling them to test new ideas.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES:

The syllabus has been divided into four units.

1. There shall be **9** questions in all. All questions carry equal marks. The first question shall be short answer type containing 12 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 09 short answer type questions i.e. 2 marks of each. It shall carry 18 marks and shall be **compulsory** question. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all.
2. Use of simple calculator is allowed.
3. The paper setter may in general stick to the distribution of marks of 1/3 to theory and 2/3 to numericals.

Unit-I

Elementary Idea of Sets and Functions : Simple and Partial Derivatives, Differentiation of Simple functions – Polynomial (x) and Exponential functions. Maxima and Minima of functions of one variable only. Their Applications of Micro and Macro Economics.

Unit-II

Matrices : Definition and Types, Operations (Sum, Difference, Product and Transpose), Adjoint and Inverse of a matrix (upto 3×3), Solution of Equations (upto 3) by Matrix Methods and Cramer's rule.
Measures of Central Tendency : Mean, Median, Partition Values, Mode, Measures of Dispersion, Skewness.

Unit-III

Correlation Analysis—Karl Pearson's (except grouped data) and Spearman's formula, Simple Regression Analysis.
Interpolation – Binomial, Expansion, Newton's (Advancing Difference Method) and Lagrange's Method.

Unit-IV

Index Numbers : Concepts, Problems and Importance, Simple Index Number, Lespeyre's and Fisher's Index Numbers only (among weighted index numbers), Reversibility Tests.
Time Series Analysis : Components of Time Series, Determination of Trend, Least Square and Moving Average Method.

Books Recommended

1. Archibald, G. C. and Lipsey, R. G. (1977) : *An Introduction to a Mathematical Treatment of Economics*, English Language Book Society, Weidenfeld and Nicolson.
2. Gupta, S.C. (1992) : *Fundamentals of Statics*, Mumbai, Himalaya Publishing House.
3. Kandoi, Balwant (2011) : *Mathematics for Business and Economics with Applications*, in 2 Vol., Himalaya, Mumbai.
4. Sanchati, D. C. & Kapoor, V. K. (1987) : *Business Mathematics*, Sultan Chand & Sons, New Delhi.
5. Yamane, Taro (1972) : *Economists*, Prentice Hall, New Delhi.

SOCIOLOGY**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-III****SOCIAL STRUCTURE AND SOCIAL CHANGE**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

- (i) For written paper, the students will be required to attempt five questions in all. Question No. I will be **compulsory** comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt 9 short answer type questions out of 12 i.e. $9 \times 2 = 18$ marks.
In addition to it, Question Nos. II to IX will consist of long answer (essay type) questions, two questions from each unit with internal choice carrying 18 marks each i.e. $4 \times 18 = 72$ marks.
- (ii) On an average, 15 hours are to be devoted for each unit.
- (iii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (iii) in the question paper.

Objective :

This paper basically introduces students both to conceptual and some theoretical understanding of social structure and social change. Students are introduced to characteristics and elements of social structure and to understand the meaning, process and factors of social change.

Course Content**Unit-I**

Social Structure : Meaning, Characteristics, Elements – Status, Role, Power and Prestige. Norms and Values.

Unit-II

Social Change : Meaning and Features.

Types of Social Change : Evolution (Comte), Revolution (Marx), Development – Changing Connotations.

Unit-III

Factors of Social Change: Economic, Demographic, Education, Legislative, Scientific and Technological

Unit-IV

Processes of Social Change : Sanskritization, Westernization, Modernization and Secularization, Globalization and its impact on Society.

Essential Readings :

1. Bierstedt, Robert (1970) : *Social Order*, New York : McGraw Hill.
2. Haferkand, H. and Smelser, N.J. (1992) : *Social Change and Modernity*, Berkeley : University of California Press.
3. Macionis, John, J. (2005) : *Society : The Basics*, New York : Prentice Hall.
4. Madhurima (2016) : *Readings in Sociology – Semester-II*, Jalandhar : New Academic Publishing House (All Mediums).
5. Moore, Wilbert (2004) : *Social Change*, New Delhi, Prentice Hall.
6. Singh, Yogendra (1993) : *Social Change in India*, New Delhi : Haranand Publications.
7. Srinivas, M.N. (1963) : *Social Change in Modern India*, Berkeley : University of California Press.

Further Readings :

1. Radcliffe-Brown, A.R. (1979) : *Structure and Function in Primitive Society*, London : Routledge and Kegan paul.
2. Haralambos, M. (1998) : *Sociology : Themes and Perspectives*, New Delhi : Oxford University Press.
3. Talcott, Parsons (1959) : *Social System*, London : Tavistock Publications.
4. Singh, Yogendra (1996) : "Sociology and the Emerging Challenge of Change", *Sociological Bulletin*, Volume 45, No. 1, March, Page 1-14.
5. Singer, M. (1972) : *When a Great Tradition Modernizes : An Anthropological Approach to Indian Civilization*, New York : Praeger Publishers.
6. Yogendra Singh, (2008) : *Social Change in India*, New Delhi, Har Anand Publications
7. Srinivas, M.N., (2011) : *Social Change in Modern India*, Hyderabad, Orient Black Swan
8. Kuppu (Swamy, B, 2001) : *Social Change in India*, Delhi, Konark

SOCIOLOGY**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER IV****SOCIAL INSTITUTIONS**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

- (i) For written paper, the students will be required to attempt five questions in all. Question No. I will be **compulsory** comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt 9 short answer type questions out of 12 i.e. $9 \times 2 = 18$ marks.

In addition to it, Question Nos. II to IX will consist of long answer (essay type) questions, two questions from each unit with internal choice carrying 18 marks each i.e. $4 \times 18 = 72$ marks.

- (ii) On an average, 15 hours are to be devoted for each unit.
- (iii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (iii) in the question paper.

Objective:

In this paper, social institution as a concept is introduced to the students. Study of various institutions which are foundations of human society, will help students to look at society in an objective and analytical way.

Course Work**Unit-I**

Institutions – Meaning, Features; Normative and Relational aspects of Institutions.

Types – Social, Political, Economic and Cultural.

Difference of Institutions with Society Community and Association

Unit-II

Social Institutions :

Marriage –Types : Monogamy and Polygamy; Rules of Mate Selection, Contemporary Trends.

Family – Meaning, Types, Structure, Function; Development Cycle and Changing Trends.

Kinship – Meaning, Significance and a Brief Understanding of Incest, Consanguinity, Affinity, Clan, Lineage, Contemporary Trends.

Unit-III

Political Institutions – State, Government and Political Parties – Features and Functions.

Economic Institutions – Features and Functions, Property, Division of Labour (Emile Durkheim).

Unit-IV

Cultural Institutions – Religion : Meaning elements, Types, Functions (Emile Durkheim & Max Weber),Dysfunctions

Essential Readings :

1. Christensen, H.(ed.) (1964) : *Handbook of Marriage & Family*, New Delhi: Allyn and Bacon.
2. Fox, Robin (1967) : *Kinship and Marriage : An Anthropological Perspective;* Baltimore : Penguin Books.
3. Giddens, Anthony (2013) : *Sociology : A Text Book for the Nineties*, London : Polity.
4. Haralambos, M. (1998) : *Sociology : Themes and Perspectives*, New Delhi : Oxford University Press.
5. Johnson, Harry, M. (1998) : *Sociology : A Systematic Introduction*, Delhi : Allied Publishers.
6. Macionis, John J. (2005) : *Society : The Basics*, New York : Prentice Hall.
7. Giddens, Anthony & Sutton W. Philip (2010) : *Sociology : Introductory Readings*, U.K.: Polity Press.
8. Schacfer, Richard, T.(2010) : *Sociology : A Brief Introductions*, N.Y.: Tata McGraw Hill.

Further Readings :

1. K.M. Kapadia (1996) : *Marriage & Family in India*, Delhi, Oxford University Press
2. Bronislaw Malinowski (1944) : *A Scientific Theory of Culture & other Essay (ed.)* Huntington Cairns, C Hapel Hall, The University of North Caroliva Press.
3. Particia Uberoi (1997) : *Family, Kinship & Marriage in India*, New Delhi, Oxford University Press
4. Max Weber (1968) : *The Protestant Ethic and the Spirit of Capitalism-R.H. Tawney (ed.)* Unvwin University, Book London.
5. Radcliff Brown, A.R. (1979) : *Structure and Functions in Primitive Society*, London: Routledge and Kegan Paul.
6. Madan, T.N.(2002) : *Religion in India*, Delhi-Oxfored UniversityPress,Atal,yogesh,2012,Sociology,Delhi ;Pearson
7. Marlom bos & Holborn,(2016) : *Cociology Themes and perspectives*,London, Collins
8. Madan, T.N.,(2001) : *Family and Kinship*,New Delhi, Oxford University Press
9. Froer, Peggy,(2010) : *Religious Divisions and Social Conflict*,New Delhi, Esha Beteille

PUBLIC ADMINISTRATION

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024

SEMESTER – III

PAPER : PERSONNEL ADMINISTRATION (WITH SPECIAL REFERENCE TO INDIA)

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objective of the Paper:

The objective of this paper is to give the student an in-depth understanding of various aspects of public personnel administration particularly recruitment, training and promotion. Contemporary issues like grievance redressal machinery, corruption, morale etc. concerning administration of human resources in government will also be examined.

INSTRUCTIONS FOR PAPER-SETTERS AND CANDIDATES :

For Private/Centre for Distance and Online Education (CDOE) students who have not been assessed earlier for the internal assessment, the marks secured by them in the paper will proportionately be increased in lieu of the internal assessment.

The Paper-Setter must put note in question paper in this regard.

The candidate shall attempt 5 questions in all (one compulsory and one each from four units). The first compulsory question shall comprise of 12 short-answer type questions, covering the whole syllabus, to be answered in 25-30 words each, out of which the candidate would be required to attempt any 9. Each question will carry 2 marks. Rest of the paper shall contain 4 units, each unit having two questions, out of which the candidate would be required to attempt one. Each question will carry 18 marks.

Unit-I

Personnel Administration – Meaning and Significance.
 Bureaucracy: Meaning, Characteristics, Demerits and Remedies.
 Civil Service: Meaning, Features and Role.
 Position and Rank Classification Systems: Significance and Features

Unit-II

Recruitment: Meaning, Methods and Problems.
 Recruitment System of Higher Civil Services in India.
 UPSC: Composition, Functions and Role.
 SPSC: Composition, Functions and Role.

Unit-III

Training – Meaning, Types, Methods, Training of Higher Civil Services in India.
 Conduct, Discipline and Ethics in Public Services.
 Promotion: Meaning, Significance and Principles.

Unit-IV

Morale, Causes of Low Morale and Measures for Improvement.
Corruption in Administration - Causes and Remedies.
Administrative Tribunals: Meaning, Types, Advantages and Disadvantages.

Essential Readings :

Davar , R.S.(1976). *Personnel Management and Industrial Relations* . NewDelhi : Vikas Publishers.
Goel, S.L.(2008).*Public Personnel Administration* . New Delhi : Sterling Publishers.
Stahl,O.G.(1975).*Public Personnel Administration*. New Delhi : Oxford and IBH Publications.
Tyagi, A.R.(2001).*Public Administration: Principles and Practice* .Delhi: Atma Ram and Sons Publishers.

Further Readings :

Government of India, Administrative Reforms Commission(1967). *Report on Personnel Administration*.
New Delhi : Manager of Publications.

Government of India, 2nd Administrative Reforms Commission.(2010) *10th Report :Refurbishing of Personal Administration – Scaling New Heights*. New Delhi : Manager of Publications.

Indian Institute of Public Administration(1970). *Personnel Administration*.New Delhi : IIPA.

Paul Pigors and C.A. Myers(1973). *Personnel Administration : A Point of View and Method*.

New York:McGraw Hill.

Sinha , V.M. (1986).*Personnel Administration*. Jaipur : RBSA.

PUBLIC ADMINISTRATION
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024
SEMESTER-IV

PAPER : FINANCIAL ADMINISTRATION (WITH SPECIAL REFERENCE TO INDIA)

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objectives of the Paper:

The objective of this paper is to give the student an in-depth understanding of various aspects of financial administration like budgeting, auditing, centre-state financial relations etc. It would also make them aware of: institutions like ministry of finance, union finance commission, parliamentary committees; and concepts like direct taxes, indirect taxes, deficit financing, public debt.

INSTRUCTIONS FOR PAPER-SETTERS AND CANDIDATES

- For Private/Centre for Distance and Online Education (CDOE) students, who have not been assessed earlier for the internal assessment, the marks secured by them in the paper will proportionately be increased in lieu of the internal assessment.

The Paper-Setter must put a note in question paper in this regard.

- The candidate shall attempt 5 questions in all (one compulsory and one each from four units). The first compulsory question shall comprise of 12 short-answer type questions, covering the whole syllabus, to be answered in 25-30 words each, out of which the candidate would be required to attempt any 9. Each question will carry 2 marks. Rest of the paper shall contain 4 units, each unit having two questions, out of which the candidate would be required to attempt one. Each question will carry 18 marks.

Unit-I

Financial Administration: Meaning and Significance .
 Aspects of Public Finance.
 Budget: Meaning, Types and Principles.
 Budget: Preparation and Enactment.

Unit-II

Union Ministry of Finance: Organisation, Functions and Role.
 Centre-State Financial Relations.
 Union Finance Commission: Composition and Functions.

Unit-III

Audit: Concept, Objectives and Types.
 Comptroller and Auditor General of India(CAGI) : Appointment, Functions and Role.
 Concepts: Deficit Financing, Fiscal Deficit, Public Debt and Public Expenditure.

Unit-IV

Legislative Control over Finance.
Public Accounts Committee:Composition, Functions and Role.
Estimates Committee:Composition, Functions and Role.

Essential Readings

Goel,S.L.,(1993).*Financial Management and Administration*. New Delhi: Sterling Publication.

Lall,G.S..*Financial Administration in India* .Delhi: H.P.J.Kapoor, 4th ed.

Mookerjee ,S.S. *Indian Public Finance and Financial Administration* . New Delhi.

S.Sahib and S.Swinder.(2016)*Public Personnel and Financial Administration* Jalandhar: New Academic Publishers Co.

Thavaraj,M.J.K.(1978).*Financial Administration of India* . New Delhi: Sultan Chand Publications.

Further Readings

Government of India, 2nd ARC .14th Report-*Strengthening Financial Management System*.

Government of India,Administrative Reforms Commission.(1967). *Report on Financial Administration*. New Delhi : Manager of Publications.

Government of India,Administrative Reforms Commission. *Report on Financial Accounts and Audit* (1967). New Delhi.

Government of India,Administrative Reforms Commission(1967).*Report on Centre-State Relations*. New Delhi : Manager of Publications.

Mahajan S. and Mahajan,A.(2014). *Financial Administration in India*. Delhi : PHI Learning Private Limited.
Sinha, R.K.(1986). *Centre-State Financial Relations in India: Various Aspects, Irritants, Framework for Action* .New Delhi: Deep & Deep Publications.

PHILOSOPHY

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024

Outlines of tests, syllabi and courses of reading

SEMESTER-III

Paper : INDIAN ETHICS (Theory)

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |
| Lectures | : | 75 |

Aims and Objectives :

This paper highlights the ethical philosophies propounded in the different Indian Philosophical Systems. It exposes the students to the main tenets of Buddhism, Sikhism, Gandhism, Gita and Vedic Culture.

This paper gives an insight into the nature of Ethics, moral notions and basic moral theories as propounded by Western Ethical Philosophers. This paper also deals with problems of applied ethics.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

(i) *The syllabus has been divided into four units.*

There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain 4 units. Each unit shall have two essay type questions, and the candidate shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.

(ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (ii) in the question paper.

Unit-I

- Salient Features of Indian Ethics with reference to Purusartha : Yuga Dharma and Sanatan Dharma.
- Varna Vyastha and Ashrama Dharma : A Contemporary Analysis.
- Concept of Sreyas and Preyas.

Unit-II

- Buddhist Ethics : Four Noble Truths, Eight Noble Paths, Ahimsa and Karma Bhava Chakra, Sila.
- Jaina Ethics : Triratnas.
- Sikh Ethics : Hukum, Nirbhau, Nirvair, Parupkar, Sewa and Sahaj.

Unit-III

- Gita : Anasakta Karma, Lok Samgraha, Sva-Dharma
- Gandhi : Ahimsa, Satyagraha and Antyodaya.

Unit-IV

- Yoga and Stress Management .
- Yoga : Yama, Niyama, Asana, Pranayama, Pratyahara, Dharna, Dhyana, Samadhi.

Essential Readings :

Maitra S. K. (1956) The Ethics of the Hindus, New Delhi: Asian Publication Services

Singh Avtar (1970) Ethics of the Sikhs, Patiala: Punjabi University.

Sharma I.C. (1965) Ethical Philosophies of India London: George Allen and Unwin

Vivekananda (1992) Raja Yoga, Calcutta: Advaita Ashram

Suggested Readings :

Dasgupta Surama (1994) Development of Moral Philosophy in India, New Delhi : Munshi Ram Manoharlal Pub.,

PHILOSOPHY**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER – IV****Paper: WESTERN ETHICS**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |
| Lectures | : | 75 |

Aims and Objectives :

This paper gives an insight into the nature of Ethics, moral notions and basic moral theories as propounded by Western Ethical philosophers. This paper also deals with problems of applied ethics.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

- (i) *The syllabus has been divided into four units.*
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** essay type questions, and the candidate shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper-setter must put note (ii) in the question paper.

Unit-I

- The Nature of Ethics : Virtues and Goodness, its concerns, Relation of Ethics with Aesthetics, Psychology and Religion.
- The notion of Truth, Beauty & Goodness, Reflective Customary Morality.
- Object of Moral Judgement : Actions, Intentions, Situations and Character.

Unit-II

- Virtue Ethics : Aristotle.
- De-Ontological Ethics: Kant's Categorical Imperativeion.

Unit-III

- Teleological Ethics :
 - (i) Hedonism
 - (ii) Utilitarianism :
 - (a) Mill
 - (b) Bentham

Unit-IV

- Moral Rights of Foetus and Female Foeticide.
- Sexual harassment and Gender Justice.
- Environmental Ethics : Pollution, Land Degradation and Organic Farming and Global Warming.

Essential Readings :

1. Aristotle (2001) Nicomachean Ethics, Dordrecht : D. Reidel, Penguin Harmondsworth
2. Lillie William (1957) An Introduction to Ethics : London, Matheun
3. Singer Peter (1995) Practical Ethics (Second Edition), Cambridge University Press
4. Verma Ved Parkash (1987), Neeti Shastra (in Hindi), New Delhi : Allied Publishers

Suggested Readings :

1. Hospers John, Human Conduct: An introduction to the Problems of Ethics
2. Hursthome Rosaline (1061), Virtue Ethics, Harcourt: New York.
3. Frankena W., (1994) Ethics, New Delhi: Englewood Cliffs, Prentice Hall, India
4. Macbott J.D. (1966) An Introduction to Ethics Hutchinson: London

PSYCHOLOGY**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-III****Paper: EXPERIMENTAL PSYCHOLOGY - I**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 80 |
| Theory | : | 70 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

There shall be **9** questions in all. The first question shall be short answer type containing 12 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 7 short answer type questions i.e. 2 marks of each. It shall carry 14 marks and shall be **Compulsory** question. Rest of the paper shall contain **4** Units. Each Unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all. Each question will carry 14 marks.

Objectives:

- (I) The course introduces to the students the general concepts and historical viewpoints in experimental psychology. The students would also get an understanding of the Nervous System, Psychophysics, Learning. This course will also give an insight into psychophysics, statistics and cognitive aspects of Psychology.
- (II) Pedagogy of the Course Work :
80% Lectures (including expert lectures).
20% assignments, discussion and seminars and tests.

Unit I

The Nervous System: Structure and functioning of the neuron; division of nervous system – Central Nervous System and Peripheral Nervous System; Structure and functioning of the brain.

Unit II**Sensation**

Concept and types; Vision-The Visual Stimulus, Structure and Functioning of the Eye , Theories of Colour Vision; Audition: The Auditory Stimulus, Structure and Functioning of the Ear, Theories of Hearing.

Unit III**Psychophysics**

Thresholds; Psychophysical Methods of Limits, Constant stimuli and Average Error.

Unit IV**Learning**

Concept, Classical Conditioning, Operant Conditioning, Observational Learning.

PSYCHOLOGY PRACTICALS

Max. Marks : 20

Time : 3 Hrs.

Four practicals have to be performed out of six :

1. Two Point Threshold
2. Muller Lyer Illusion
3. Differential Threshold
4. Method of Paired Comparison
5. Maze Learning
6. Bilateral Transfer of Training

Suggested Readings :

1. Baron, R.A. (2003): Psychology. New Delhi : Pearson Education.
 2. Ciccarelli, D. (2008): Introduction to Psychology. Delhi: Pearson.
 3. Das, J.P. (1998): The Working Mind: An Introduction to Psychology. New Delhi: Sage.
 4. Feldman, R.S. (1998) : Understanding Psychology. New Delhi : Tata McGraw Hill.
 5. Garrett, H.E. (1966) : Statistics in Psychology and Education. New Delhi : Vakils, Feffer and Simons.
 6. Guilford, J.P. and Fruchter, B. (1981) : Fundamental Statistics in Psychology and Education. Singapore: McGraw Hill.
 7. Kerlinger, F. N. (1964) : Foundations of Behavioural Research. New York: Rinehart and Winston.
 9. Morgan, C.T., King, R.A., Weisz, J.R. and Schopler, J. (1987) : Introduction to Psychology. Singapore: McGraw Hill.
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PSYCHOLOGY SEMESTER-IV

Paper : EXPERIMENTAL PSYCHOLOGY – II

| | |
|---------------------|------------|
| Max. Marks | : 80 |
| Theory | : 70 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

There shall be **9** questions in all. The first question shall be short answer type containing 12 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 7 short answer type questions i.e. 2 marks of each. It shall carry 14 marks and shall be **Compulsory** question. Rest of the paper shall contain **4** Units. Each Unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all. Each question will carry 14 marks.

Objectives:

- (I) The course introduces to the students the general concepts and historical viewpoints in General Psychology. The students would also get an understanding of the principles and theories in different areas like Sensation, Perception and Thinking. The course also introduces the elementary statistics.
- (II) Pedagogy of the Course Work :
80% Lectures (including expert lectures).
20% assignments, discussion and seminars and tests.

Unit I

Memory

Sensory Register; Short-Term and Long -Term Memory; Levels of Processing; Measurement of Memory; Forgetting with special reference to retro-active and pro-active inhibition

Unit II

Perception: Concepts , Types of Perception of Form, Space and Movement
Attention: Nature, Types and Factors.

Unit III

Thinking : Nature, Tool & Types and Factors
Problem Solving: Nature , Stages and Factors.
Creativity: Concept; Torrance's Theory of Creativity.

Unit IV

Statistics

Normal Probability Distribution: Properties and Applications.
Hypothesis Testing – Type I and Type II Errors; Chi-square Test Application to one – way and Two-way classifications.

Note : The use of non-programmable calculators and statistical tables are allowed in the examination.

PSYCHOLOGY PRACTICALS

Max Marks : 20
Time : 3 Hrs.

Four practicals have to be performed out of the following :

1. Division of Attention
2. Span of Attention
3. Comparing Recall and Recognition as Measures of Memory
4. Retroactive Interference
5. Concept Formation.

Suggested Readings:

1. Baron, R.A. (2003): *Psychology*, New Delhi : Pearson Education.
2. Ciccarelli, D. (2008): *Introduction to Psychology*, Delhi: Pearson.
3. Das , J.P. (1998):*The Working Mind: An Introduction to Psychology*, New Delhi: Sage.
4. Feldman, R.S. (1998) :*Understanding Psychology*, New Delhi: Tata McGraw Hill.
5. Garrett, H.E. (1966): *Statistics in Psychology and Education*, New Delhi Vakils, Feffer And Simons.
6. Guilford, J.P., and Fruchter, B. (1981):*Fundamental Statistics in Psychology and Education* Singapore: McGraw Hill.
7. Kerlinger, F.N. (1964): *Foundations of Behavioural Research*, New York Holy, Rinehart and Wintson
8. Morgan, C.T., King, R.A., Weisz, J.R. and Schopler, J. (1987): *Introduction to Psychology*, Singapore: McGraw Hill

GEOGRAPHY
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024
SEMESTER-III

Paper –V: GEOGRAPHY OF INDIA

| | | |
|---------------------|---|----------|
| Max. Marks | : | 70 |
| Theory | : | 60 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

Objectives:

To foster an understanding of the physical and cultural landscape of India and its spatial diversity

Course Content**Unit-I**

Introduction: India in the context of South Asia, Asia and the World. (05 lectures)
Physiography: Relief, drainage, climate, vegetation, soils. (15 lectures)

Unit-II

Agriculture: Characteristics and problems of Indian agriculture; irrigation, major crops (rice, wheat, maize, sugarcane, cotton, jute and tea), Food security with special reference to India. (15 lectures)
Natural hazards in India: Flood, Drought and Earthquake. (05 lectures)

Unit III

Population: Distribution and density, Growth, Migration, Urbanization (05 lectures)
Mineral and Power Resources: Iron ore, manganese, mica, copper and gold; Coal, Petroleum, Hydroelectricity and Non- conventional Power resources. (15 lectures)

Unit IV

Industries: Distribution and localization factors of major industries (Iron and Steel, Cotton Textiles, Sugar, Fertilizers, Automobile). (15 lectures)
Trade &Transport: Rail, Road, Airways and Waterways; International Trade (05 lectures)

- Note :**
1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 10 parts. The answer of each part should be in about 25 words. Each part will carry 2 marks (Total 20 marks).
 2. The whole syllabus will be divided into 4 Units. Eight questions will be set out of the whole syllabus, two from each Unit. The students will be required to attempt one question from each Unit. Each question will carry 10 marks (Total 40 marks). These will be in addition to the compulsory question.
 3. Special credit will be given to suitable use of maps and diagrams. Use of unmarked map stencils and colour pens/pencils are allowed.
 4. Six hours Theory Classes in a week are compulsory.
 5. Internal assessment will be based on (i) class tests,(5%) (ii) academic activities, Seminar, Project, Assignment (3%) and (iii) attendance(2%).
 6. For CDOE, reappear/improvement candidate(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned. **The paper-setter must put note (6) in the question paper.**

List of Readings:**Essential Reading:**

1. Deshpande, C.D. : *India: A Regional Interpretation*, Indian Council of Social Science Research, New Delhi, 1992.
2. Johnson, B.L.C. : *India: Resources and Development*, Arnold Heinemann, London, 1980.
3. Johnson, B.L.C. : *South Asia*, Heinemann, London, 1981.
4. Khullar, D.R. : *India: A Comprehensive Geography*, Kalyani Publishers, New Delhi, 2011.
5. Majid Hussain : *Geography of India*, Tata McGraw-Hill, Delhi, 2013.
6. Spate, O.H.K. and ATA : *India & Pakistan: Land, People and Economy*, Methuen, London, Learmonth, 1967.
7. Tiwari, R.C : *Geography of India*, Pravalika Publications, Allahabad, 2013.

Further Readings :

1. Singh, Gopal : *A Geography of India*, Atma Ram & Sons, New Delhi, 1995
2. Singh, Jagdish : *India: A Comprehensive Systematic Geography*, Gyanodaya Prakashan, Gorakhpur, 2nd Edition, 2003.
3. Singh, R.L. : *India: A Regional Geography (Ed.)*, National Geographical Society of India, Varanasi, 1971.
4. Singh, Savindra : *Environmental Geography*, Pravalika Publications, Allahabad, 2014
5. Sharma, T.C. and O. : *Economic and Commercial Geography of India*, Vikas Publishing, House, New Delhi, 2005.
6. Tirtha, Ranjit & Gopal Krishan : *Emerging India*, Conpub Ann Arbour Publishers, Michigan, 1992.

Pedagogy:

- Use of visual aids especially maps.
- Students should be encouraged to use an atlas in the classrooms.
- Audio-video shows on different parts of India.

Paper-VI: CARTOGRAPHY-III

Max. Marks : 30
Time : 3 Hours

Distribution of Marks:

| | | |
|-----------------------------------|---|----------|
| Written paper of 3 hours duration | : | 20 marks |
| Viva and Practical record (5 + 5) | : | 10 marks |

Objectives:

- To apprise the students with symbolization of different types of geographical data and depiction of various spatial data.
- To provide training in application of various graphical methods of depicting geographic data.
- To train the students to interpret the topographical sheets at different scales.

Course Content:**UNIT-I**

Nature of Geographic Data: Spatial and Attribute (Climatic, Population, Agriculture and Industrial)

Symbolization & Scaling of Geographical Data: Point, Line and Area

(4 lectures, 4 lab sessions)

UNIT-II

Choice, Use and Representation of Data using Point Symbols: Columnar Diagrams (Simple, Multiple, Compound, Percentage); Dot, Circle and Sphere

(6 lectures, 12 lab sessions)

UNIT-III

Choice, Use and Representation of the following Point Symbols: Graphs (Line Graph, Climograph, Hythergraph, Ergograph, Wind Rose, Combined and Bar Graph)

(8 lectures, 20 lab sessions)

UNIT-IV

Choice, Use and Representation of Data using: Line Symbols (Isopleth and Flow Lines); and Area Symbols (Choropleth)

(6 lectures, 12 lab sessions)

Note:

1. The written and practical examination including viva-voce shall be conducted at the respective college itself except CDOE. However, the format of the question paper shall be uniform. A separate paper of 20 marks shall be prepared on the spot by the examiners from the prescribed syllabus.

2. Practical examination at the respective colleges shall be conducted by one internal and one external examiner. The external examiner shall be appointed by the Principal of the respective colleges in consultation with the senior most teachers of Geography in the college.
3. For students of CDOE, a written theory paper for 20 marks shall be conducted by the University along with the University examination. A separate paper of 20 marks shall be prepared for CDOE students from the prescribed syllabus.
4. A compulsory question containing 6 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 4 parts. The answer of each part should not exceed 25 words. Each part will carry 1 mark (Total 4 Marks).
5. The whole syllabus has been divided into 4 Units. Eight questions will be set out of the whole syllabus, i.e. 2 from each Unit. Each question will carry 4 marks (Total 16 marks). The students will be required to attempt one question from each Unit. These will be in addition to the compulsory question.
6. Three hours Practical Classes in a week are compulsory.
7. Evaluation of Practical Record will be done at the time of viva-voce examination. A minimum of 12 sheets are to be prepared by the students. There will be no laboratory exercise at that time.
8. There will be no viva-voce examination for the candidates appearing through CDOE. They will be required to submit their Practical Note Book (Practical files) with the Centre for Distance and Online Education (Department of Geography) at least 10 days before the commencement of their examination. Their Note Books (Practical files) will be evaluated by two examiners (including at least one from the CDOE).
9. For the students of Centre for Distance and Online Education, there will be an internal assessment of 10 marks in lieu of the viva-voce examination.
10. A fresh practical note book shall be prepared by failed/improvement/reappear candidates.
11. For practical classes, the number of students in one group shall not exceed fifteen.
12. For CDOE, reappear/improvement candidate(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned. **The paper-setter must put note (12) in the question paper.**

List of Readings

Essential Readings:

1. Khullar, D.R. : *Essentials of Practical Geography, New Academic Publishig Co., Jalandhar, 2009.*
2. Robinson, A.H. : *Elements of Cartography, 6th Edition, John Wiley, New York, 2009.*
3. Sarkar, Asish : *Practical Geography: A Systematic Approach, 2nd Edition, Orient BlackSwan, Hyderabad, 2011.*
4. Singh, Gopal : *Mapwork & Practical Geography, Vikas Publishing House Pvt. Ltd., New Delhi, 2009.*
5. Singh, R.L. & P.B. : *Map Work and Practical Geography, Central Book Depot, Raghunandan Allahabad, 2007.*

Further Readings:

1. Birch, T.W. : *Maps: Topographical & Statistical, Clarendon Press, Oxford, 1949.*
2. Garnett, A. : *Geographical Interpretation of Topographical Maps, George Harrap & Co., London, 1953.*
3. Monkhouse, F.J. : *Maps and Diagrams, Methuen & Co., London, 1994 reprint.*
4. Rather, G.M. : *A Text of Practical Geography, Arina Publishers, New Delhi, 2011*

Pedagogy:

- The students need to be trained in the use of symbols to depict various geographic data.
- A well equipped cartographic laboratory with necessary instruments to prepare exercises.
- Students should be encouraged to use computers while preparing practical exercises.

GEOGRAPHY
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024
SEMESTER-IV

Paper-VII: GEOGRAPHY OF PUNJAB

| | | |
|---------------------|---|----------|
| Max. Marks | : | 70 |
| Theory | : | 60 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

Objectives:

- To understand the regional setting of Punjab state in detail through physical and political maps.
- To examine the cultural patterns of the regions.
- To study the distribution of major crops, industries and transport links in the state.
- To understand the intra regional variations in select aspects.

Course Content:**Unit –I**

Introduction: Location, Evolution, Cultural Regions (Majha, Doaba & Malwa) and Administrative Divisions of the State. (15 lectures)

Unit –II

Physical Base: Relief, Drainage, Climate, Soils and Vegetation (12 lectures)
Resources: Mineral and Power; Water with special reference to river water sharing. (8 lectures)

Unit-III

Agriculture: Main Characteristics and Problems; Agro-climatic Regions; Green Revolution & its Ecological Implications; Irrigation; Main crops (wheat, rice, cotton, sugarcane) and their distribution, Livestock and dairying. (20 lectures)

Unit –IV

Population: Distribution, Density, Growth, Migration, Sex Ratio, Urbanization. (7 lectures)
Industries: Main characteristics, Distribution Patterns of Major Industries (Cotton Textile, Sugar, Hosiery Engineering) Industrial Concentration, Problems of Industrialization. (15 lectures)
Trade &Transport: Road, Rail and Air Transport; Inter-State Trade. (3 lectures)

- Note :**
1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 10 parts. The answer of each part should be in about 25 words. Each part will carry 2 marks (Total 20 marks).
 2. The whole syllabus will be divided into 4 Units. Eight questions will be set out of the whole syllabus, two from each Unit. The students will be required to attempt one question from each Unit. Each question will carry 10 marks (Total 40 marks). These will be in addition to the compulsory question.
 3. Special credit will be given to suitable use of maps and diagrams. Use of unmarked map stencils and colour pens/pencils are allowed.
 4. Six hours Theory Classes in a week are compulsory.
 5. Internal assessment will be based on (i) class tests, (5%) (ii) academic activities, Seminar, Project, Assignment (3%) and (iii) attendance (2%).

6. For CDOE, reappear/improvement candidate(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned. **The paper-setter must put note (6) in the question paper.**

List of Readings

Essential Readings:

1. Mankoo, Darshan Singh : *Geography of Punjab, 4th Edition*, Kalyani Publishers, Ludhaina 2009.
2. Mavi, H.S. & Tiwana, D.S. : *Geography of Punjab*, National Book Trust, Delhi, 1993.
3. Singh, Jaspal : *Geography of Punjab*, Twenty First Century Publications, Patiala, 2014
4. Singh, Malkit : *Geography of Punjab*, Rashmeet Parkashan, Jalandhar, 2004

Further Readings:

1. Deshpande ,C.D. : *India: A Regional Interpretation* , Indian Council of Social Science Research, New Delhi, 1992.
2. Economic and Statistical Organization of Punjab : *Statistical Abstract of Punjab*, Economic and Statistical Organization of Punjab, Chandigarh, 2014
3. Gosal, G.S. & Gopal Krishan : *Regional Disparities in Level of Socio-Economic Development in Punjab*, Vishal Publications, Kurukshetra, 1984.
4. Gupta S.P. : *The Punjab: An Overview*, ESS PEE Publications, Chandigarh, 2004.
5. Kahlon, Simrit : *Punjab: regional reflections*, Man and Development, 29 (2), 2007.
6. Singh Pritam : *Punjab Economy: The Emerging Patterns*, Enkay Publishers, New Delhi, 1995.
7. Singh, R.L. : *India: A Regional Geography (Ed)*, National Geographical Society of India, 1990, Reprint.
8. Spate, O.H.K. & Learmonth A.T.A. : *India and Pakistan: A General and Regional Geography*, Methuen, London, 1967

Pedagogy

- Extensive and intensive use of maps to understand the regional setting.
- A component of field visit to some areas of each region may be planned for effective understanding of the region.

Paper-VIII: CARTOGRAPHY-IV

Max. Marks : 30
Time : 3 Hours

Distribution of Marks:

| | | |
|-----------------------------------|---|----------|
| Written paper of 3 hours duration | : | 20 marks |
| Viva and Practical record (5 + 5) | : | 10 marks |

Objectives :

- To apprise the students with symbolization of different types of geographical data and depiction of various spatial data.
- To provide training in application of various graphical methods of depicting geographic data.
- To train the students to interpret the topographical sheets at different scales.

Course Content:**UNIT-I**

Topographical Maps: Nomenclature (Classification), Study and Interpretation; Significance and Application in Geographical Studies

(4 lectures, 4 lab sessions)

UNIT-II

Profiles: Serial, Composite, Superimposed and Projected
Longitudinal and Transverse; Profiles of rivers

(8 lectures, 16 lab sessions)

UNIT-III

Elementary Remote Sensing : Definition, Concept, History, Application Areas and Types of platforms

(10 lectures, 8 lab sessions)

UNIT-IV

Introduction to Concept of GIS and Computer Cartography.
Definition, Development, Database (Spatial and Non Spatial) GIS Components (Hardware & Software) and Application.
Preparation of Line Graphs, Bars and Pie Charts using Computers.

(10 lectures, 10 lab sessions)

Note:

1. The written and practical examination including viva-voce shall be conducted at the respective college itself except CDOE. However, the format of the question paper shall be uniform. For college students, a separate paper of 20 marks shall be prepared on the spot by the examiners from the prescribed syllabus.
2. Practical examination at the respective colleges shall be conducted by one internal and one external examiner. The external examiner shall be appointed by the Principal of the respective colleges in consultation with the senior most teachers of Geography in the college.
3. For students of CDOE, a written theory paper for 20 marks shall be conducted by the University along with the University examination. A separate paper of 20 marks shall be prepared by the University for CDOE students from the prescribed syllabus.

4. A compulsory question containing 6 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 4 parts. The answer of each part should not exceed 25 words. Each part will carry 1 mark (Total 4 Marks).
5. The whole syllabus has been divided into 4 Units. Eight questions will be set out of the whole syllabus, i.e. 2 from each Unit. Each question will carry 4 marks (Total 16 marks). The students will be required to attempt one question from each Unit. These will be in addition to the compulsory question.
6. Three hours Practical Classes in a week are compulsory.
7. Evaluation of Practical Record will be done at the time of viva-voce examination. A minimum of 12 sheets are to be prepared by the students. There will be no laboratory exercise at that time.
8. There will be no viva-voce examination for the candidates appearing through CDOE. They will be required to submit their Practical Note Book (Practical files) with the Centre for Distance and Online Education (Department of Geography) at least 10 days before the commencement of their examination. Their Note Books (Practical files) will be evaluated by two examiners (including at least one from the CDOE).
9. For the students of Centre for Distance and Online Education, there will be an internal assessment of 10 marks in lieu of the viva-voce examination.
10. A fresh practical note book shall be prepared by failed/improvement/reappear candidates.
11. For practical classes, the number of students in one group shall not exceed fifteen.
12. For CDOE, reappear/improvement candidate(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned. **The paper-setter must put note (12) in the question paper.**

List of Readings

Essential Readings:

1. Bhatta, Basudeb : *Remote Sensing and GIS*, Oxford, 2nd Edition, New Delhi, 2011
2. Guha, P.K. : *Remote Sensing For The Beginner*, East-West Press, 3rd Edition, New Delhi, 2013..
3. Khullar, D.R. : *Essentials of Practical Geography*, New Academic Publishing Co., Jalandhar, 2009.
4. Robinson, A.H. : *Elements of Cartography, 6th Edition*, John Wiley, New York, 2009.
5. Sarkar, Asish : *Practical Geography: A Systematic Approach*, 2nd Edition, Orient BlackSwan, Hyderabad, 2011.
6. Singh, Gopal : *Mapwork & Practical Geography*, Vikas Publishing House Pvt. Ltd., New Delhi, 2009.
7. Singh, R.L. & Singh, P.B. : *Map Work and Practical Geography, Central Book Depot, Raghunandan Allahabad, 2007.*

Further Readings:

1. Birch, T.W. : *Maps: Topographical & Statistical*, Clarendon Press, Oxford, 1949.
2. Garnett, A. : *Geographical Interpretation of Topographical Maps*, George Harrap & Co., London, 1953.
3. Joseph, George : *Fundamentals of Remote Sensing*, Universities Press (India) Private Limited, 2nd Edition, Hyderabad, 2005
4. Monkhouse, F.J. : *Maps and Diagrams*, Methuen & Co., London, 1994 reprint.
5. Panda, B.C. : *Remote Sensing: Principles and Applications*, Viva Books, New Delhi, 2008
6. Rather, G.M. : *A Text of Practical Geography*, Arina Publishers, New Delhi, 2011

Pedagogy:

- They should learn to comprehend the topographical maps by deriving slopes and drawing profiles.
- A well equipped cartographic laboratory with necessary instruments to prepare exercises.
- Students should be encouraged to use computers while preparing practical exercises.

GANDHIAN STUDIES

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024

SEMESTER-III

SOCIAL THOUGHT OF MAHATMA GANDHI

| | |
|---------------------|-------------|
| Max. Marks | : 100 marks |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |

Course Objectives :

The paper is designed to acquaint the students with the Social Thought of Mahatma Gandhi.

Pedagogy of the Course Work :

90% Lectures (including expert lectures)

10% Unit tests, Snap tests, assignments, attendance and class room participation

- Note :**
1. The syllabus has been divided into four (4) units.
 2. There shall be **9** questions in all.
 3. The first question is compulsory and shall be short answer type containing 15 short answer type questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any **9** short answer type questions carrying 18 marks i.e. 2 marks of each. It shall carry 18 marks and shall be **compulsory** question.
 4. Rest of the paper shall contain four (4) units and each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each unit – 4 in all. All questions shall carry 18 marks.
 5. For the private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (5) in the question paper.

UNIT-I

Fundamentals of Gandhi's Social Thought

1. Truth
2. Non-violence
1. Sarvodaya

UNIT-II**Man and State**

4. Human Rights
5. Ideal Society, State and Rama Rajya

UNIT-III**Gandhi and Ethics**

6. Education
7. Theory of Civilization
8. Morality and Religion

UNIT-IV**Gandhi and Social Justice**

9. Drive against Untouchability :
 - (a) Caste System
 - (b) Communal Award
 - (c) Poona Pact
10. Women Empowerment

Essential Readings :

1. Bandyopadhyaya, J. : *Social and Political Thought of Mahatma Gandhi*, (Bombay : Allied Publisher) 1969.
2. Bharathi, K.S. : *Social and Political Thought of Mahatma Gandhi* (New Delhi : Concept) 1995.
3. Gandhi, M.K. : *An Autobiography or The Story of My Experiments with Truth* (Ahmedabad: Navjivan Publishing House), 2001
4. Gandhi, M.K. : *Satyagraha in South Africa* (Ahmedabad: Navajivan Publishing House), 1992
5. Gandhi, M.K. : *Hind Swaraj* (Ahmedabad: Navajivan Publishing House), 1999
6. Mishra, Anil Dutta : *Reading Gandhi*, (New Delhi : Pearson), 2012
7. Varma, V.P. : *Political Philosophy of Mahatma Gandhi & Sarvodaya*, Agra (Laxmi Narain Aggarwal), 1998.

Further Readings :

- 1 Bandyopadhyaya, Jayantaja : *Social and Political Thought of Mahatma Gandhi*, (Allied Publishers, Bombay), 1969.
- 2 Nanda, B.R. : *Making of a Nation : India's Road to Independence* (New Delhi: Harper Collins), 1998.
3. Suda, J.P. : *Main Currents of Social and Political Thought of Modern India*, Vol. II, Meerut (K. Nath & Co.) 1973.
4. Unnithan, T.K.N. : *Gandhi and Social Change*, New Delhi (Arnold Heinemann India), 1973.

GANDHIAN STUDIES**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-IV****POLITICAL THOUGHT OF MAHATMA GANDHI**

| | |
|---------------------|-------------|
| Max. Marks | : 100 marks |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |

Course Objectives :

The paper is designed to acquaint the students with the Political Thought of Mahatma Gandhi.

Pedagogy of the Course Work :

90% Lectures (including expert lectures)

10% Unit tests, Snap tests, assignments, attendance and class room participation

- Note :*
1. The syllabus has been divided into four (4) units.
 2. There shall be **9** questions in all.
 3. The first question is compulsory and shall be short answer type containing 15 short answer type questions spread over the whole syllabus and each to be answered in about 25 to 30 words The candidate is required to attempt any **9** short answer type questions carrying 18 marks i.e. 2 marks of each. It shall carry 18 marks and shall be **compulsory** question.
 4. Rest of the paper shall contain four (4) units and each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each unit – 4 in all. All questions shall carry 18 marks.
 5. For the private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (5) in the question paper.

UNIT-I**Fundamentals of Gandhi's Political Thought**

1. Truth & Non-violence
2. Theory of Ends & Means
3. State : Ideal Society and State

UNIT-II**Democracy & Decentralization**

4. Panchayat Raj/Gram Swaraj
5. Freedom & Equality
6. Rights and Duties

UNIT-III**Religion and Politics**

7. Satyagraha : Meaning, Essentials, Forms & Significance
8. Satyagraha & Passive Resistance
9. Spiritualization of Politics

UNIT-IV**Contemporary Relevance**

10. Communal Harmony
11. Assessment and Contemporary Relevance

Essential Readings

1. Bhattacharyya, Buddhadeva : *Evolution of Political Thought of Gandhi*, Calcutta: Calcutta Book House, 1969.
2. Brown, Judith, M. : *Gandhi's Rise to Power: Indian Politics 1915-1922* (London: Cambridge University Press), 1972.
3. Dhawan, G.N. : *Political Philosophy of Mahatma Gandhi*, Ahmedabad (Navajivan Publishing House) 1990, 4th Edition.
4. Gandhi, M.K. : *An Autobiography or The Story of My Experiments with Truth* (Ahmedabad: Navajivan Publishing House), 2001
5. Gandhi, M.K. : *Satyagraha in South Africa* (Ahmedabad: Navajivan Publishing House), 1992
6. Gandhi, M.K. : *Hind Swaraj* (Ahmedabad: Navajivan Publishing House), 1999
7. Mishra, Anil Dutta : *Reading Gandhi*, New Delhi (Dorling Kindersley, Pearson), 2012
8. Varma, V.P. : *The Political Philosophy of Mahatma Gandhi & Sarvodaya*, Agra (Laxmi Narain Aggarwal), 1981.

Further Readings:

- 1 Bandyopadhyaya, Jayantaja : *Social and Political Thought of Mahatma Gandhi*, (Allied Publishers, Bombay), 1969.
- 2 Iyer, Raghaavan N. : *The Moral & Political Thought of Mahatma Gandhi*, London, Oxford University Press, 1973.
3. Mishra, Anil Dutta (ed.) : *Perspectives on Human Rights* (New Delhi, Radha Publications)2002.
4. Nanda, B.R. : *Making of a Nation : India's Road to Independence* (New Delhi: Harper Collins), 1998.

JOURNALISM & MASS COMMUNICATION
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-24
SEMESTER-III

PRINT JOURNALISM**Max. Marks: 100**

| | |
|---------------------|------------|
| Theory | : 70 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |
| Practical | : 20 marks |

A. Objectives:

This course will introduce students to the basic techniques of sourcing news stories and features. They will also be trained in the art and science of writing and presenting print media content.

B. Pedagogy of the Course Work:

80 % Lectures (including expert lectures).
 20 % assignments, discussion and seminars.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

There shall be **9** questions in all. The first question shall be short answer type containing 10 short questions spread over the whole syllabus and each to be answered in about 50 to 75 words. The candidate is required to attempt any 7 short answer type questions i.e. of 2 marks each. It shall carry 14 marks and is a **compulsory** question. Rest of the paper shall contain **4** Units. Each Unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all. Each question will carry 14 marks.

Unit-I: Definition and nature of news and features; types of news and features

Unit-II: Sources of News; Idea generation for features; types of Story Structures (Inverted pyramid Hourglass, Nutgraph, Five box, Narrative)

Unit-III: Role and responsibility of a sub-editor; basic of copy editing; importance and writing of headlines.

Unit-IV: Design, Structure and Classification of type; vocabulary of design; design principles

PRACTICALS**Max. Marks : 20**

1. Prepare a file of different types of news and features. 20 Marks

Books Recommended :

ESSENTIAL READING

- 1 Bruce D. Itule, Douglas A Anderson,, (2006), *News Writing and Reporting for Today's Media*, Mc Graw Hill
- 2 De Bono, E. (2007) *How to Have Creative Ideas*. Random House
- 3 Ludwig, Mark D., (2005), *Modern News Editing*, Willy Blackwell, New York
- 4 Meera, R. (2009) *Feature Writing*. New Delhi: PHI Learning Pvt. Ltd.
- 5 Melvin Mencher, (2007), *News Reporting & Writing*, McGraw Hill
- 6 Miller, B & Paola, S. (2012) *Tell it Slant: Creating, Refining and Publishing Creative Non-fiction*. McGraw-Hill
- 7 Sims, N. (2008) *True Stories: A Century of Literary Journalism*. Northwestern University Press
- 8 Stephen G. Bloom, (2002), *Writing Narrative Journalism: Inside the Writers mind*, Iowa State University Press.
- 9 Tim Harrower, (2006), *Inside Reporting, A Practical guide to the Craft of Journalism*, McGraw Hill.

ADDITIONAL READING

- 1 Anaa McKane, (2006), *News Writing*, Sage.
- 2 Bell, James Scott,(2008), *Revision and Self Editing (Write great Fiction)*, Writers Digest Books, New York
- 3 Bowles, D., & Borden, (2000), *Creative Editing*, (3rd ed.) Belmont, CA: Wadsworth
- 4 Boynton, R.S. (2005) Introduction to *The New Journalism: Conversations with America's Best Nonfiction Writers on Their Craft*. Vintage Books.
- 5 Johnson, C., (2005), *22st Century: Feature Writing*. New York: Allyn and Bacon
- 6 K.Tim Walkmeyer,(2009), *Online News Writing*, Wiley Blackwell,
- 7 Om Gupta, (2006), *Encyclopedia of Journalism and Mass Communication*, Gyan Books Pvt. Ltd. ND
- 8 Prof. Ramesh Chanha, (2004), *Analysis of Media and Communication Trends*, Gyan Books Pvt. Ltd. ND
- 9 Rachel Bard, (2005), *News Writing Guide*, Universe.
- 10 Rajan, Nalin (Eds), (2007), *22st Century Reporting in India*, Indiana, New Delhi.
- 11 Rajnish, (2007), *Review Reporting and Journalism*, Indiana, New Delhi.
- 12 Wray, C., (2005), *Writing for Magazines*, (2nd ed.). Boston: McGraw Hill.

JOURNALISM & MASS COMMUNICATION
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-24
SEMESTER-IV

RADIO & TV JOURNALISM**Max. Marks: 100**

| | |
|---------------------|------------|
| Theory | : 70 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |
| Practical | : 20 marks |

A. Objectives :

The course will introduce students to the basic techniques of writing & presenting for the radio and TV medium.

B. Pedagogy of the Course Work :

80 % lectures (including expert lectures).

20 % assignments, discussion and seminars

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

There shall be **9** questions in all. The first question shall be short answer type containing 10 short questions spread over the whole syllabus and each to be answered in about 50 to 75 words. The candidate is required to attempt any 7 short answer type questions i.e. of 2 marks each. It shall carry 14 marks and is a **compulsory** question. Rest of the paper shall contain **4** Units. Each Unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all. Each question will carry 14 marks.

Unit-I: Basic principles of gathering, treatment and presentation of news for Radio; Basic principles of gathering, treatment and presentation of news for Television

Unit-II: Reporting and writing for Radio and TV; Pronunciation and modulation in Radio/TV reporting: Pitch, volume, tempo, vitality.

Unit-III: Introduction to the stages of Radio/TV Production (pre-production, production, post production)

Unit-IV: Camera Perspective, Principles of Camera Composition

PRACTICALS**Max. Marks : 20**

- | | |
|---|----------|
| 1. Compilation of 5-minute weekly TV news bulletins | 10 Marks |
| 2. Compilation of 10-minute weekly radio bulletins. | 10 Marks |

ESSENTIAL READING

- 1 Fedler, Fred, bender, John R., Davenport, huanda, Drager, Michael W., (2005), *Reporting for the media*. Oxford University Press, New York.
- 2 Kaushik, Sharda, (2000), *Script to Screen: An Introduction to TV Journalism*, Macmillan, New Delhi,
- 3 Machin, David & Niblock, Sarah, (2006), *News production: Theory and Practice*, Routledge, New York
- 4 Shukla, A.K, (2008), *Handbook of Journalism and Mass Communication*. Rajat Publications, New Delhi

ADDITIONAL READING

- 1 Caywood, Clark L., (2004), *The Handbook of Strategic Public Relations and Integrated Communications*, Tata McGraw Hill, New York.
- 2 Shrivastava, K.M, (2005), *Broadcast Journalism in the 22st century* New Dawn Press Group, New Delhi.
- 3 Shrivastava, K.M, (2005), *Broadcast Journalism in the 22st century* New Dawn Press Group, New Delhi.
- 4 Zettl, Herbert, 2003, *The Handbook of Strategic Public Relations and Integrated Communications*. Tata McGraw Hill, New York,

POLICE ADMINISTRATION

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024

SEMESTER-III

Police Personnel Administration

(A) Course Objectives:

The objective of this course is to give inputs to the students on the various aspects of personnel relevant to police administration. Effort is made to impart knowledge to the candidates about the meaning, nature, scope and significance of Police Personnel Administration in India. In addition, job analysis, job description, pay policy, compensation and fringe benefits have been discussed. Further, the recruitment, training and promotion system in Police Service in India has been included in the syllabus. The students are also taught about the performance appraisal, police ethics, corruption in police, code of conduct and discipline along with doctrine of pleasure.

(B) Pedagogy of the Course Work:

90 per cent of the Course Content would be delivered through Lecture Method and rest 10 per cent would comprise of :

- i. Internal Test-5%;
- ii. Academic activities (Seminar, Project, Assignment)-3%;
- iii. Attendance-2%

(C) Instructions for Paper Setters and Candidates:

- The maximum marks for the paper will be 100. The question paper will be of 90 marks and internal assessment of 10 marks.
- Time allowed will be 3 hours.
- There shall be 9 questions in all.
- The first question shall be compulsory and be short answer type containing 12 short questions spread over the whole syllabus and to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 2 marks each ($9 \times 2 = 18$ marks).
- Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall have two questions and the candidates shall attempt one question from each unit i.e. four questions in all. Each question will carry 18 marks ($4 \times 18 = 72$ marks).

(D) Course Content:**Unit-I**

Meaning, Nature and Scope of Police Personnel Administration; Significance of Police Personnel Administration in India; Career System in Police Administration.

Unit-II

Job Analysis and Job Description of Police Personnel – Concept and Significance; Pay Policy, Compensation and Fringe Benefits.

Unit-III

Recruitment: Meaning and Methods; Recruitment of Police Personnel in India; Training: Meaning and Types; Training of IPS Officers and State Police Services in India; Promotion: Meaning and Principles; Promotion of Police Personnel in India.

Unit-IV

Performance Appraisal; Police Ethics and Code of Conduct; Corruption – Meaning and Causes; Corruption in Police Force; Disciplinary Actions; Doctrine of Pleasure – Safeguards against Arbitrary Punishment.

Essential Readings:

- | | | | |
|----|-----------------------------------|---|--|
| 1. | Administrative Reforms Commission | : | Report on Personnel Administration, 11 th Report, Government of India, New Delhi. |
| 2. | Goel, S.L. | : | Public Personnel Administration, Deep & Deep Publication Pvt. Ltd., New Delhi, 2006. |
| 3. | Mamoria, C.B. | : | Personnel Management, Himalaya Publishing House, Mumbai, 2007. |
| 4. | Zehra, Kaneez | : | Training of I.P.S., Ashish Publishing House, New Delhi, 1993. |
| 5. | Muthuswamy, P. | : | Swamy's Manual on Disciplinary Proceedings, Swamy Publishers (p) Ltd., Madras, 1986. |

Further Readings

- | | | | |
|----|--|---|---|
| 1. | Saxena, A.P. | : | Training and Development in Government, The Indian Institute of Public Administration, New Delhi, 1974. |
| 2. | Singh, Sahib Bhayana, Singh, Swinder and Dogra, R.K. | : | Public Personnel and Financial Administration, New Academics, Jalandhar, 1990. |
| 3. | Ghosh, P. | : | Personnel Administration in India, Sudha Publications Private Limited, New Delhi, 1973. |

POLICE ADMINISTRATION

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024

SEMESTER-IV

Law and Order Administration

(A) Course Objectives:

The principal objective of the syllabi is to acquaint the students with the basics of Law and Order Administration in India. Specifically, the students will be imparted the knowledge about the meaning, nature, scope and significance of Law and Order Administration in India along with some basic issues and emerging patterns. The endeavour is to discuss in detail the role and significance of Primary and Auxiliary Agencies of Law and Order Administration. Further, the role of Law and Order Administration in crowd management, communal riots, agrarian and industrial conflicts has also been discussed. The students are also taught about the challenges before Law and Order Administration. In addition, the concept of National Security along with challenges to it, in contemporary terms have been included in the syllabus.

(B) Pedagogy of the Course Work:

90 per cent of the Course Content would be delivered through Lecture Method and rest 10 per cent would comprise of :

- i. Internal Test-5%;
- ii. Academic activities (Seminar, Project, Assignment)-3%;
- iii. Attendance-2%

(C) Instructions for Paper Setters and Candidates:

- The maximum marks for the paper will be 100. The question paper will be of 90 marks and internal assessment of 10 marks.
- Time allowed will be 3 hours.
- There shall be 9 questions in all.
- The first question shall be compulsory and be short answer type containing 12 short questions spread over the whole syllabus and to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 2 marks each (9x2 = 18 marks).
- Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall have two questions and the candidates shall attempt one question from each unit i.e. four questions in all. Each question will carry 18 marks (4x18 = 72 marks).

(D) Course Content:

Unit-I

Meaning, Nature and Scope of Law and Order Administration; Significance of Law and Order Administration in India; Law and Order Administration – Some Basic Issues and Emerging Patterns.

Unit-II

Role, Significance and interrelationships of Law and Order Administration Agencies at the District level : The Police; Civil Administration; Court of Law; Prisons; and Health.

Unit-III

Role of Law and Order Administration in Crowd Management, Communal Riots and Industrial & Agrarian Conflicts. Challenges before Law and Order Administration.

Unit-IV

National Security: Concept and Significance. Challenges to National Security in India – Contemporary Issues.

Essential Readings:

1. Bailey, David, H. : The Police and Political Development in India, Princeton University Press, New Jersey, 1969.
2. Sharma, K.K. : Law and Order Administration, National Book Organization, New Delhi, 1985.
3. Srivastava, Aparna : Role of Police in a Changing Society, A.P.H. Publishing Corporation, New Delhi, 1999.
4. Ghosh, S.K. and Rustamji, K.F. : Encyclopaedia of Police in India, Volume - I, Ashish Publishing House, New Delhi, 1993.
5. Bharti, Dalbir : *Police Evam Log: Donon ke Adhikar Va Zimmedarian*, A.P.H. Publishing Corporation, New Delhi, 2007.
6. Singh, Yogendra : Social Change in India: Crisis and Resilience, Har-Anand Publications Pvt. Ltd., New Delhi, 2007.

Further Readings

1. Mayhall, Pamela D.et.al. : Police-Community Relations and the Administration of Justice, Prentice-Hall Inc., New Jersey, 1995.
2. Ghosh, S.K. : Keeping the Peace: For Whom the Bell Tolls (Police Then and Now), Ashish Publishing House, New Delhi, 1989.
3. Vadackumchery, James & Kattakayam, John : Human Behaviour and Law Enforcement, Ashish Publishing House, New Delhi, 1995.
4. Owens, R.Glynn and Ashcraft, J. Barrie : Violence: A Guide for the Caring Professions, Croom Helm, New Hampshire, USA, 1985.
5. Singh, K.P. : Police Gyan Vigyan, The Bright Law House Delhi, 2003.

WOMEN'S STUDIES**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-III****Paper : FEMINIST THEORY**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objective :

This course offers the prominent theories that feminists have formulated to explain the matrix of gender inequality from the nineteenth century to the present. It further seeks to introduce the student to the key debates within feminist theories as well as the shifts in feminism.

Note : The students are expected to have a general understanding of the various strands of feminism and not of any specific feminist thinker in this course.

Course Contents :**Unit-I : Feminism**

- (a) Definition,
- (b) Emergence of Feminism with special focus on
 - Women in French Revolution,
 - Suffrage Movement in the U.S.A. (with reference to Seneca Falls Convention and Declaration of Sentiments),
 - Suffrage Movement in the U.K.
- (c) Three waves of Feminism.

Unit-II : Strands of Feminism-I

- (a) Liberal Feminism,
- (b) Socialist Feminism,
- (c) Marxist Feminism.

Unit-III : Strands of Feminism-II

- (a) Radical Feminism
- (b) Post modern Feminism
- (c) Psycho-analytic Feminism (Freudian).

Unit-IV : Strands of Feminism-III

- (a) Black Feminism
- (b) Cultural Feminism
- (c) Feminism and Environmental Issues

NOTE :

- In each of the papers, the candidate will be assessed for 90 marks on the basis of a written examination and for 10 marks internal assessment.
- There shall be 9 questions in all. The first question shall be compulsory containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidate is required to attempt any 09 short answer type questions carrying 2 marks each (18 marks). Rest of the paper shall contain 4 units. Each Unit shall have two questions and the candidate shall attempt one question from each unit-4 in all. Each question will carry 18 marks.

Essential Readings :

Agarwal, Bina, **The Gender and Environment Debate: Lessons from India, Feminist Studies**, Vol. 18, No.1, Spring 1992, pp 119-158.

Anderson, Margaret, **Thinking About Women**, Macmillan, New York, 1993.

Beasley, Chris, **What is Feminism?**, Sage, London, 1999.

Bell Hooks, **Ain't I a Woman: Black Women and Feminism**, Pluto Press, London, 1982.

Chatterjee, Mohini, **Feminism and Gender Equality**, Aavishkar, Jaipur, 2005.

Collins, Patricia Hill, **Black Feminist Thought: Knowledge, Consciousness and the Politics of Empowerment**, Routledge, New York, 1999.

Desai, Leela, **Issues in Feminism**, Pointer Pub., Jaipur, 2004.

Molyneux, Maxinne and Steiberg, Deborah Lynn, **Mies and Shiva's Ecofeminism: A New Testament**, **Feminist Review**, No. 49, Spring 1995, pp 86-10.

Further Readings :

Banks, Olive, **Faces of Feminism: A Study of Feminism as a Social Movement**, St. Martin's Press, New York, 1981.

Freeman, Jo (ed.), **Women: A Feminist Perspective**, Palo Alto, California : Mayfield, 1975.

Kosambi, Meera, **Crossing Thresholds: Feminist Essays in Social History**, Permanent Black, New Delhi, 2007.

Mishra, Binod (ed.), **Critical Responses to Feminism**, Sapru & Sons, New Delhi, 2006.

Shukla, Bhaskar A., **Feminism : From Mary Wollstonecraft to Betty Friedan**, Sapru & Sons, New Delhi, 2007.

Spender, Dale, **Feminist Theorists: Three Centuries of Women's Intellectual Traditions**, The Women's Press, London, 1982.

WOMEN'S STUDIES**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-IV****Paper : Status of Women in India – II**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objective : This course aims to sensitize the student with the status of women in contemporary India, with a special focus upon the factual situation apart from the major issues confronting Indian women.

Unit-I : Demographic Trends

- (a) Sex Ratio, Age Specific Sex Ratio : Trends
- (b) Change in Sex Ratio : Causes and Consequences
- (c) Fertility Rates
- (d) Definitions: Infant Mortality Rate, Child Mortality Rate, Total Mortality Rate, Maternal Mortality Rate;
Causes of Gender Differentials in Mortality Rates

Unit-II : Women and Education

- (a) Gender Gaps in Literacy Rates, School Enrolment and Dropout Rates and Right to Education
- (b) Women in Higher Education : Gender Gaps
- (c) Obstacles to Women's Education : Socio Cultural, Economic and Infrastructural

Unit-III : Women and Health

- (a) Why Health is a Gender Issue?
- (b) Definition : Health & Reproductive Health
- (c) Factors affecting Women's Health Status
- (d) Issues relating to women's health status : Nutritional health status of women and girl child in India.

Unit-IV : Women and Work :

- (a) Changing definition of Household work.
- (b) Gender differential in Work Participation Rates
- (c) Sexual Division of Labour
- (d) Sexual Harassment at the Workplace
- (e) Obstacles to Women's Workforce Participation : Cultural, Skill development etc.

NOTE :

- In each of the papers the candidate will be assessed for 90 marks on the basis of a written examination and for 10 marks internal assessment.
- There shall be 9 questions in all. The first question shall be compulsory containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidate is required to attempt any 09 short answer type questions carrying 2 marks each (18 marks). Rest of the paper shall contain 4 units. Each Unit shall have two questions and the candidate shall attempt one question from each unit-4 in all. Each question will carry 18 marks.

Essential Readings :

1. Chatterjee, Meera , **A Report on Indian Women from Birth to Twenty**, NIPCCD, New Delhi, 1999.
2. Gopalan, Sarala and Shiva, Mira, **National Profile on Women, Health and Development**, VHAI & WHO, 2000.
3. Gopalan, Sarala, **Towards Equality - The Unfinished Agenda : Status of Women in India -2001**, National Commission for Women, New Delhi, 2002.
4. Menon-Sen, Kalayani and Shiva Kumar, A.K., **Women in India ! How Free?, How Equal?** Report Commissioned by the Office of the United Nations Resident Coordinator in India, New Delhi, 2001.
5. **National Human Development Report, 2001**, Planning Commission, Govt. of India, March, 2002.

Further Readings :

1. Ali, Aruna Asaf, **Resurgence of Indian Women**, Nehru Memorial Museum and Library, New Delhi, Radiant ,1991.
2. Ali, Azra Asghar, **The Emergence of Feminism Among Indian Muslim Women, 1920-1947**, Oxford, Karachi, 2000.
3. Anand, Meena **Dalit Women : Fear and Discrimination**, Isha Books, Delhi, 2005.
4. Bhattacharya, Rinki (ed.), **Behind Closed Doors : Domestic Violence in India**, Sage, New Delhi, 2004.
5. Choudhary, Prem, **Contentious Marriages : Eloping Couples : Gender, Caste and Patriarchy in Northern India**, OUP, New Delhi, 2007.
6. Desai, Neera and Krishnaraj, Maithreyi (ed.), **Women and Society in India**, Ajanta Publication, New Delhi, 1987.
7. Kumar, Hajira (ed.), **Status of Muslim Women in India**, Aakar Books, Delhi, 2002.
8. Mohanti, Bedabati, **Violence Against Women: An Analysis of Contemporary Realities**, Kanishka Publication, New Delhi, 2005.
9. Mohini, Giri, V., **Deprived Devis : Women's Unequal Status in Society Gyan**, New Delhi, 2006.
10. Rajawat, Mamta, **Dalit Women : Issues and Perspectives**, Anmol Pub, New Delhi, 2006.

HUMAN RIGHTS & DUTIES

B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024

SEMESTER-III

PAPER : HUMAN RIGHTS & DUTIES IN INDIA

| | | |
|---------------------|---|-----------|
| Max. Marks | : | 100 Marks |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objective:

The course is designed to make students aware about the human rights and duties framework in India. An attempt has been made to deal the issue within the ambit of evolution of the concepts of human rights and duties; Constitutional structure and Implementation mechanisms.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

Note: For written paper, the students will be required to attempt five questions in all. Question No. I will be compulsory comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine short answer type questions out of 12 i.e. $9 \times 2 = 18$ marks.

In addition to it, Questions No. II to IX will consist of long answer (Essay Type) questions i.e. 2 questions from each Unit with internal choice carrying 18 marks each i.e. $4 \times 18 = 72$.

UNIT I: EVOLUTIONARY PHASE

- (i) Evolution of the concept of Human Rights in India
- (ii) The notion and significance of Duties in India
- (iii) Values and relevance of composite culture of India: non-violence; secularism and fraternity

UNIT II: CONSTITUTIONAL FRAMEWORK

- (i) The Preamble
- (ii) Fundamental Rights
- (iii) Directive Principles of State Policy
- (iv) Fundamental Duties

UNIT III: KEY AREAS IN THE CONTEMPORARY PHASE

- (i) Right to food security
- (ii) Right to Education
- (iii) Right to Information
- (iv) Right to clear environment

UNIT IV: IMPLEMENTATION OF HUMAN RIGHTS

- (i) Constitutional Machinery: Role of Judiciary
- (ii) Statutory Machinery: National Human Rights Commission and State Human Rights Commissions

Essential Readings:

1. Aarti Singh Introduction to Human Rights and Duties: An Introduction to Human Rights: Concepts in Human Rights and the United Nations (2016), Lambert Academic Publishing (LAP).
2. Kaur, Amrit Pal, Promotion of Human Rights Law & Implementation,(2014) New Era Law Publications, New Delhi.
3. Lexis Manp/Kumar Sinha, Implementation of Basic Human Rights (2013), Nexis, New Delhi.
4. Brownlie Ian, et al.(eds), *Basic Documents on Human Rights*, (2006) Oxford.
5. David Robertson, *A Dictionary of Human Rights*, Europa Publications, (2004), London.
6. Ray, Arun National Human Rights Commission of India: Formation Functioning and Future Prospects (Vol.# 2), (2004), Atlantic Publication, New Delhi.
7. Nirmal, C.J., *Human Rights in India: Historical, Social and Political Perspectives* (2002) Oxford New Delhi.
8. Gandhi, P.R. (ed), *Blackstone's International Human Rights Documents* (2001),Universal, Delhi.
9. Basu, D.D., *Introduction to the Constitution of India*, (1997), New Delhi: Prentice Hall of India.
10. Henry J. Steiner, et al., (eds.), *International Human Rights in Context*, Chapter 10, (1996) Clarendon Press, Oxford.
11. Brundland Report, *Our Common Future*, (1986), Oxford.

Further Readings:

1. Kapoor, S.K.; *Human Rights under International Law and Indian Law*, (2014) Central Law Publications, Allahabad.
2. Kapoor, S.K.; *Human Rights under International Law*, (2009) Central Law Publications, Allahabad.
3. Paul, R.C., *Situation of Human Rights in India*, (2000) Commonwealth New Delhi: Publishers.
4. Rao, Ashiwini, *Status of Human Rights in India*, (2010) New Delhi, Pacific.
5. South Asian Human Rights Documentation Centre : *Human Rights and Humanitarian Law*, (2008) South Asian Human Rights Documentation Centre, New Delhi.
6. South Asian Human Rights Documentation Centre: *Introducing Human Rights*, New Delhi, (2006) South Asian Human Rights Documentation Centre, New Delhi.

HUMAN RIGHTS & DUTIES**B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-IV****PAPER : HUMAN RIGHTS ISSUES IN INDIA**

| | | |
|---------------------|---|-----------|
| Max. Marks | : | 100 Marks |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objective:

The Paper deals with a few specific issues in India along with some key responses emerging from the Indian society for the protection and Promotion of human rights.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

Note: For written paper, the students will be required to attempt five questions in all. Question No. I will be compulsory comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine short answer type questions out of 12 i.e. $9 \times 2 = 18$ marks.

In addition to it, Questions No. II to IX will consist of long answer (Essay Type) questions i.e. 2 questions from each Unit with internal choice carrying 18 marks each i.e. $4 \times 18 = 72$.

UNIT I: HUMAN RIGHTS & LABOUR

- (i) Bonded Labour
- (ii) Unorganized labour
- (iii) Child Labour

UNIT II: STRUCTURAL PROBLEMS AND IMPACT ON HUMAN RIGHTS

- (i) Poverty
- (ii) Illiteracy
- (iii) Unemployment

UNIT III: HUMAN RIGHTS & CRIMINAL JUSTICE

- (i) Concept of Criminal Justice System in India
- (ii) Rights of the accused
- (iii) Rights of the victim

UNIT IV: SOCIAL AUDITING FOR HUMAN RIGHTS

- (i) Definition, significance of social auditing
- (ii) Agent of Social Auditing including Human Rights Defenders
- (iii) Role of Media in social auditing
- (iv) Role of Civil Society in social auditing

Essential Readings:

1. Pavithran, K.S., *Human Rights in India: Discourses and Contestations* (2018) Gyan Publishing, Mumbai.
2. Singh Karamjeet and Kaur Navleen, *Gender Mainstreaming in Higher Education: An Inclusive Approach* (2018), Bharti, Publications, New Delhi.
3. Gupta Namita, *Human Rights in India: Contemporary Issues and Challenges* (2017) Regal Publication, New Delhi.
4. Aggarwal, H.O., *Human Rights*, (2014), Central Law Publications, New Delhi
5. Anuradha, K.P., *Human Rights Issues in India* (2010), Adhyayan Publishers & Distributors, New Delhi.
6. Satish C. Shastri(ed), *Human Rights, Development and Environmental Law: An Anthology*, (2007), Jain Book Agency, Delhi.
7. Amrita Aggarwal, *Human Rights for Survival of Civilization*, (2004) Kalinga Publications.
8. V.R.Krishna Iyer, *Human rights – A judge’s Miscellany*, (1995) B. R. Publishing Corporation, Delhi.
9. Kalpana Kannabiran, *Crafting Human Rights Cultures*, (2006), NALSAR University of Law.
10. Upendra Baxi (ed.), *The Right to be Human*, (1987), Lancer International, New Delhi.
11. R.C.Mishra, *Human Rights and Policing*, Authors Press, (2005), New Delhi.

Further Readings:

1. K.I. Vibhute, *Criminal Justice A Human Rights Perspective of the Criminal Justice Process in India*, (2004), Eastern Book Company, Lucknow.
2. Khanna, S.K., *Children and the Human Rights*, (1998), Commonwealth, New Delhi.
3. Pandit Kamalkar, *Human Rights and Criminal Justice*, (2010), Asia Law House, Hyderabad.
4. Pachauri, S.K., *Children and Human Rights*, (1999), APH Publications, Delhi.
5. Pachauri, S.K. *Women and Human Rights*, (1999), APH Publications, New Delhi.

COMPARATIVE STUDY OF RELIGION
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024
SEMESTER-III

PAPER- III, SIKH RELIGION AND HISTORY

Max. Marks :100
Written : 90
Internal : 10
Time : 03 hrs.

Objectives:

The course is designed for the students who want to pursue semester based graduate degree programme with Religious Studies as an elective subject. It is open to any student drawn from multiple disciplinary backgrounds after completion of 10+2 course. As one of the elective subject at the graduate level curriculum, it purports to develop a broad understanding of Indian Religions and awareness about the origin, features and purpose of different religions.

INSTRUCTIONS FOR PAPER-SETTER AND CANDIDATES:

Note: (i) For written paper, the students will be required to attempt five questions in all. Question No. I will be compulsory comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine answer type questions out of twelve. Question No. I would carry 18 marks (9X2).

In addition to it, Questions No. II to IX will consist of **eight** long answer (Essay Type) questions which will be further divided into four units with each Unit having **two questions** to ensure internal choice to the candidate. In all, each question in this section shall carry 18 marks and this section shall carry 72 marks (4X18).

Course Contents

Unit - I

Life, Teachings and Contribution: Guru Nanak Dev, Guru Angad Dev, Guru Amar Das, Guru Ram Das and Guru Arjun Dev; Martyrdom of Guru Arjan Dev.

Unit - II

Life, Teachings and Contribution: Guru Hargobind, Guru Har Rai, Guru Harkrishan, Guru Teg Bahadur and Guru Gobind Singh; Martyrdom of Guru Tegh Bahadur.

Unit - III

Life, Teachings and Contribution: Bhagats and Bhattas

Unit - IV

Compilation of the *Adi Granth*; Foundation of the Khalsa

Essential Readings

- ਅੰਮ੍ਰਿਤਪਾਲ ਕੌਰ, ਡਾ. (ਮੁਖ ਸੰਪਾ.) ਖੋਜ ਪਤ੍ਰਿਕਾ, ਬਾਣੀਕਾਰ ਵਿਸ਼ੇਸ਼ ਅੰਕ-57 ਮਾਰਚ 2003, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਅਜਮੇਰ ਸਿੰਘ, ਡਾ. (ਸੰਪਾ.) ਖੋਜ ਪਤ੍ਰਿਕਾ, ਪ੍ਰਗਟਯੋ ਖਾਲਸਾ ਵਿਸ਼ੇਸ਼ ਅੰਕ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਰਾਜਿੰਦਰ ਸਿੰਘ ਜਾਲੀ, ਸਿਖ ਇਤਿਹਾਸ ਦੀਆਂ ਝਲਕੀਆਂ, ਜਾਲੀ ਲਿਟਰੇਟਚਰ ਹਾਊਸ ਦਿੱਲੀ-ਅਮਰੀਕਾ
- ਹਰਚਰਨ ਸਿੰਘ, ਡਾ., ਖੋਜ ਪਤ੍ਰਿਕਾ, ਗੁਰੂ ਨਾਨਕ ਵਿਸ਼ੇਸ਼ ਅੰਕ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਅੰਮ੍ਰਿਤਪਾਲ ਕੌਰ, ਡਾ., ਖੋਜ ਪਤ੍ਰਿਕਾ, ਬਾਣੀ ਸੰਪਾਦਨਾ ਵਿਸ਼ੇਸ਼ ਅੰਕ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਡਾ. ਹਰਜਿੰਦਰ ਸਿੰਘ ਢਿਲੋਂ, ਗੁਰੂ ਰਾਮਦਾਸ, ਰੂਹੀ ਪ੍ਰਕਾਸ਼ਨ, ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਨਗਰ, ਅੰਮ੍ਰਿਤਸਰ
- ਡਾ. ਅੰਮ੍ਰਿਤ ਲਾਲ ਪਾਲ, ਗੁਰੂ ਅਰਜਨ ਦੇਵ- ਜੀਵਨ ਤੇ ਬਾਣੀ, ਸੰਗਮ ਪਬਲੀਕੇਸ਼ਨ
- ਗੁਰਮੁਖ ਸਿੰਘ, ਗੁਰੂ ਅਰਜਨ ਦੇਵ: ਜੀਵਨ ਦਰਸ਼ਨ ਤੇ ਬਾਣੀ, ਰੂਹੀ ਪ੍ਰਕਾਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ
- ਸਤਿਬੀਰ ਸਿੰਘ, 'ਗੁਰ ਭਾਰੀ' ਜੀਵਨੀ ਗੁਰੂ ਹਰਿਗੋਬਿੰਦ ਜੀ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਖੋਜ ਪਤ੍ਰਿਕਾ, ਗੁਰੂ ਅਮਰਦਾਸ- ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- Banerjee, I.B., *Evolution of the Khalsa*, 2 vols., A. Mukherjee & Co., 1972 (2nd edn.).
- Grewal, J.S., *Guru Nanak in History*, Chandigarh: Panjab University, 1979.
- Mcleod, W.H., *Guru Nanak and the Sikh Religion*, Oxford: Oxford University Press, 1968.
- G.S. Talib: *Guru Nanak; His personality & Vision*

Further Reading

- ਇੰਦੂਭੂਸ਼ਨ ਬੈਨਰਜੀ, ਖਾਲਸੇ ਦੀ ਉਤਪਤੀ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਪਿਆਰ ਸਿੰਘ, (ਸੰਪਾ.) ਸ੍ਰੀ ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ (ਫਾਰਸੀ ਸਰੋਤ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ
- ਡਾ. ਰਤਨ ਸਿੰਘ ਜੱਗੀ, ਡਾ. ਗੁਰਸ਼ਰਨ ਜੱਗੀ, ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਬਾਣੀ, ਗੁਰਮਤ ਪ੍ਰਕਾਸ਼ਨ, ਪਟਿਆਲਾ
- Grewal, J.S., *The Sikhs of the Punjab, The New Cambridge History of India*, New Delhi: Cambridge University Press, 1999 (2nd ed.).
- Teja Singh and Ganda Singh, *A Short History of the Sikhs: 1469-1765*, Vol.I, Patiala: Punjabi University, 1983 (rep.).
- Mann, Gurinder Singh, *The Making of the Sikh Scripture*, New York: 2001.

COMPARATIVE STUDY OF RELIGION
B.A. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024
SEMESTER-IV

PAPER- IV SIKH LITERATURE AND INSTITUTIONS

Max. Marks :100
Written : 90
Internal : 10
Time : 03 hrs

Objectives:

The course is designed for the students who want to pursue semester based graduate degree programme with Religious Studies as an elective subject. It is open to any student drawn from multiple disciplinary backgrounds after completion of 10+2 course. As one of the elective subject at the graduate level curriculum, it purports to develop a broad understanding of Indian Religions and awareness about the origin, features and purpose of different religions.

INSTRUCTIONS FOR PAPER-SETTER AND CANDIDATES:

Note: (i) For written paper, the students will be required to attempt five questions in all. Question No. I will be compulsory comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine answer type questions out of twelve. Question No. I would carry 18 marks (9X2).

In addition to it, Questions No. II to IX will consist of **eight** long answer (Essay Type) questions which will be further divided into four units with each Unit having **two questions** to ensure internal choice to the candidate. In all, each question in this section shall carry 18 marks and this section shall carry 72 marks (4X18).

Course Contents

Unit - I

Unity of Guruship; Institution of Gurdwara

Unit -II

Different sects within the Sikh Movement (Udasis, Minas, Dhirmalya , Ram Raiyas) origin and development

Unit - III

Study of *Japji* and *Chandi Di Var* (Message and Formation)

Unit - IV

Study of Janam Sakhis; Tika; Parmarath; Gost. (Definition and Features) (Two out of three)

Essential Readings

- ਨਰਿੰਦਰ ਕੌਰ ਭਾਟੀਆ ਅਤੇ ਜਸਵਿੰਦਰ ਕੌਰ ਢਿਲੋਂ, ਡਾ. (ਸੰਪਾ.) ਪ੍ਰਮੁੱਖ ਸਿੱਖ ਸੰਸਥਾਵਾਂ, ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ
- ਤਾਰਨ ਸਿੰਘ, ਗੁਰਬਾਣੀ ਦੀਆਂ ਵਿਆਖਿਆ ਪ੍ਰਣਾਲੀਆਂ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਦਰਸ਼ਨ ਸਿੰਘ, ਡਾ., ਧਰਮ ਅਧਿਐਨ ਅਤੇ ਸਿੱਖ ਅਧਿਐਨ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਬ੍ਰਹਮ ਜਗਦੀਸ਼ ਸਿੰਘ, ਜਪੁਜੀ, ਵਿਚਾਰਧਾਰਾ, ਪ੍ਰਬੰਧ ਤੇ ਪਾਠ, ਵਾਰਸ ਸ਼ਾਹ ਫਾਊਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ
- ਰਾਮ ਸਿੰਘ, ਡਾ. ਜਪੁਜੀ ਦੇ ਪੰਜ ਖੰਡ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਓਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ
- ਪਰਮਿੰਦਰ ਸਿੰਘ, ਕਿਰਪਾਲ ਸਿੰਘ, ਚੰਡੀ ਦੀ ਵਾਰ, ਲਾਹੌਰ ਬੁਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ
- ਰਤਨ ਸਿੰਘ ਜੱਗੀ, ਚੰਡੀ ਦੀ ਵਾਰ, ਗੁਰਮਤਿ ਪ੍ਰਕਾਸ਼ਨ ਪਟਿਆਲਾ
- ਹਰਬੰਸ ਸਿੰਘ ਗਿਆਨੀ, ਚੰਡੀ ਦੀ ਵਾਰ ਸਟੀਕ, ਸਹਿਗਲ ਪ੍ਰਿੰਟਰਜ਼ ਜਲੰਧਰ

Further Reading

- Grewal, J.S., *The Sikhs of the Punjab, The New Cambridge History of India*, New Delhi: Cambridge University Press, 1999 (2nd ed.).
- Grewal, J.S., *Sikh Ideology, Polity and Social Order*, New Delhi: Manohar, 1996.
- Mcleod, W.H., *Sikhs and Sikhism*, Oxford: Oxford University Press, 1999.
- Jagraj Singh: *A complete guide to Sikhism*, Unistar Chandigarh, 2011

ENVIRONMENT CONSERVATION
B.A. /B.Sc.(GENERAL) SECOND YEAR EXAMINATION, 2023-2024
SEMESTER-III

Paper : Air Pollution and Climate Change

| Theory Hours | Practical Hours | Theory Marks | Internal Assessment Marks | Practical Marks | Practical Internal Assessment Marks | Total Marks |
|--------------|-----------------|--------------|---------------------------|-----------------|-------------------------------------|-------------|
| 6 | 4 | 65 | 10 | 20 | 5 | 100 |

The number of hours for theory and practical per week shall be 6 hours and 4 hours respectively.

Note: The practical will include survey and its project reports carrying 5 marks, and 20 marks will be allotted to laboratory practicals.

Instructions for paper setters :-

There will be 9 questions in all, two each from section I to IV. All questions will carry equal marks (13 marks each). Question No. I will be short answer type & will cover the whole syllabus. Candidates will attempt five questions in all, selecting one each from section I to IV and the first compulsory question.

Paper : AIR POLLUTION AND CLIMATE CHANGE

Unit-I

Atmosphere: Composition of atmosphere, Air Pollution: Sources, Classification (Natural and anthropogenic sources; primary and secondary pollutants), Smoke, Smog, Particulate Matter and Acid rain. Effects of air pollution on human health, plants, animals and material. Air (Prevention and Control of Pollution) Act, 1981.

Unit-II

Green House Effect: Definition, Green house gases, Sources of green house effect, Global Warming. Stratospheric ozone layer depletion. Role of agriculture to green house effect (paddy and livestock, biomass burning) in GHE.

Unit-III

Noise pollution: Definition, Sources, Noise standards, Silence Zones, Consequences of noise pollution.

Radioactive Pollution: Definition, Sources, effect on human health.

Mineral Resources: Types and Importance of minerals; Mineral extraction and environmental problems (limestone mining in Moussourie hills, coal mining in Jharkhand).

Unit-IV

Control: Measures and techniques to control air pollution in vehicles and industries, Green building concept, CDM (Clean Development Mechanism), Carbon sequestration. Control of noise pollution.

PRACTICAL

To monitor the level of Dust fall, SPM in surrounding atmosphere.

To monitor the level of NO_x and SO₂ in surrounding atmosphere.

To prepare a survey report on different sources causing air pollution in local area.

To prepare a survey report on noise pollution in your locality.

To visit, collect data and prepare report regarding air and water pollution from sugar mill, thermal plant, cement factory in the adjoining area like Nawanshahr, Ropar, and Hoshiarpur.

ENVIRONMENT CONSERVATION**B.A. /B.Sc.(GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-IV****Paper : SOLID WASTE AND DISASTER MANAGEMENT**

| Theory Hours | Practical Hours | Theory Marks | Internal Assessment Marks | Practical Marks | Practical Internal Assessment Marks | Total Marks |
|---------------------|------------------------|---------------------|----------------------------------|------------------------|--|--------------------|
| 6 | 4 | 65 | 10 | 20 | 5 | 100 |

The number of hours for theory and practical per week shall be 6 hours and 4 hours respectively.

Note: The practical will include survey and its project reports carrying 5 marks, and 20 marks will be allotted to laboratory practicals.

Instructions for paper setters :-

There will be 9 questions in all, two each from section I to IV. All questions will carry equal marks (13 marks each). Question No. I will be short answer type & will cover the whole syllabus. Candidates will attempt five questions in all, selecting one each from section I to IV and the first compulsory question.

Unit-I

Solid waste: Sources, nature and characteristics; categories of solid waste, Biodegradable and non-biodegradable waste; Plastic nuisance. Solid waste disposal: Sanitary landfills, Composting, optimum conditions for composting, Pyrolysis, Incineration and Refuse Derived Fuels. Fly Ash utilization, MSW Handling Rules, 2000.

Unit-II

Natural disasters: Floods, earthquakes, Tsunami, land slides, drought, forest fire and Tropical cyclones.

Disaster management: pre-disaster phase, actual disaster phase, post- disaster phase.

Unit-III

Bioenergy and waste water treatment: Biogas plant: Construction and working of biogas plants, its advantages and disadvantages. Vermi-culture and Vermi-composting, Biofertilisers, Biofuels.

Waste water treatment (STP and ETP), A brief account of primary, secondary and tertiary treatment.

Unit-IV

Organic farming: Definition, Need of Organic Farming, Methods: Soil management, weed management, control of pests. Its advantages. Organic Food, its benefits.

Waste lands: Definition, Categories of waste lands, Desertification, ways of reclamation.

PRACTICAL

A visit to Composting/Vermicomposting Unit.

To prepare a survey report of municipal waste of your city (Generation to disposal).

Classify the waste of your municipality waste (Source based and Waste based)

To visit any landfill site and prepare a tour report.

To prepare a list of herbicides / pesticides / insecticides commonly used in this area

To make a list of various botanical pesticides available in the market

Assignments/project as assigned by the teacher

Books Recommended

1. Critchfield, Howard J., General Climatology, Second Edition, Prentice-Hall, Inc., 1982.
2. Houghton, J., Global Warming, The Complete Briefing, 3rd Edition, Cambridge Univ. Press, 2006.
3. Hill, M. K., Understanding Environmental Pollution, Cambridge Univ. Press, 2008.
4. Malsin, M., Global Warming, A Very Short Introduction, Oxford Univ. Press, 2009
5. Tchobanogloas, G., Integrated Solid Waste Management: Engineering, Principle and Management. McGraw Hill, USA. 1993.
6. Singh, H.M., Solid Waste Management. Alfa Publications, Delhi. 2010.
7. Bhatnagar R.K. & Palta R.K., Earthworm Vermin Culture & Vermi Composting, Kalyani, Pub. 2007.
8. Ranganathan L.S, Vermi biotechnology: From Soil Health to Human Health, Updesh Purodit Pub. Jodhpur, 2006.
9. Aggarwal, A. K., Water Pollution, APH Publications, New Delhi, 2008.
10. American Public Health Association, Standard Methods for Examination of Water and Wastewater, APHA, New York, 2003.
11. Sengupta, B., John, S. & Abraham, T. Forth Estate, A Handbook on Air, Water and Land Pollution. IDMA Foundation for Sustainable Development and BR Publications Corporation, Delhi. 2006.
12. Aggarwal, A. K., Noise Pollution. APH Publications, New Delhi, 2008.
13. Veeresh, G. K., Organic Farming. Foundation Books, Delhi, 2006.
14. Gehlot, D., Organic Farming: Components and Management, Agrobios, Jodhpur, 2010.
15. Singh, K. K. & Aleyer, L., Disaster Management: Manmade Disasters. APH Publications. 2010.
16. Dhunna, M., Disaster Management, Vayu Education of India, Delhi, 2009.
16. Sharma & Sharma, Natural Disasters, APH Publications, 2009.
17. Dara, S.S., A Textbook of Environmental Chemistry. 2nd Edition. S. Chand & Company Ltd., Ram Nagar, New Delhi, 2010.

MATHEMATICS
B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024
SEMESTER-III

Paper-I : ADVANCED CALCULUS-I

| | | |
|----------------|---|---------|
| Max. Marks | : | 30 |
| Time | : | 3 Hours |
| Int. Assesment | : | 4 Marks |

- Note :*
1. The syllabus has been split into two Units : Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions in all selecting at least two questions from each unit. Each question will be of 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorials.
 4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester.

Unit-I

Limit and continuity of functions of two and three variables. Partial differentiation. Change of variables. Partial derivation and differentiability of real-valued functions of two and three variables. Schwarz and Young's theorem. Statements of Inverse and implicit function theorems and applications.

Vector differentiation, Gradient, Divergence and Curl with their properties and applications.

Unit-II

Euler's theorem on homogeneous functions. Taylor's theorem for functions of two and three variables. Jacobians. Envelopes. Evolutes. Maxima, minima and saddle points of functions of two and three variables. Lagrange's multiplier method.

References

1. Gabriel Klaumber : Mathematical Analysis, Marcel Dekkar, Inc. New York, 1975.
2. T.M. Apostol : Mathematical Analysis, Narosa Publishing House, New Delhi, 1985.
3. R.R.Goldberg : Real Analysis, Oxford & I.B.H. Publishing Co., New Delhi, 1970.
4. D. Soma Sundaram and B. Choudhary : A First Course in Mathematical Analysis, Narosa Publishing House, New Delhi, 1997.
5. P. K. Jain and S. K. Kaushik : An Introduction to Real Analysis, S. Chand & Co., New Delhi, 2000.
6. Gorakh Prasad : Differential Calculus, Pothishala Pvt.Ltd., Allahabad.

7. J. D. Murray & M. R. Spiegel : Theory and Problems of Advanced Calculus, Schaum Publishing Co., New York.
8. S.C.Malik : Mathematical Analysis, Wiley Eastern Ltd., New Delhi.
9. Shanti Narayan : A Course of Mathematical Analysis, S. Chand and Company, New Delhi
10. J. D. Murray & M.R. Spiegel : Vector Analysis, Schaum Publishing Company, New York.
11. N.Saram and S.N. Nigam : Introduction to Vector Analysis, Pothishala Pvt. Ltd., Allahabad.
12. Shanti Narayan : A Text Book of Vector Calculus, S. Chand & Co., New Delhi.

Paper II : DIFFERENTIAL EQUATIONS- I

| | | |
|----------------|---|---------|
| Max. Marks | : | 30 |
| Time | : | 3 Hours |
| Int. Assesment | : | 3 Marks |

- Note:**
- The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 - A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 - The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 - If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester.

Unit-I

Exact differential equations. First order and higher degree equations solvable for x , y , p . Clairaut's form. Singular solution as an envelope of general solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant coefficients.

Unit-II

Linear differential equations with variable coefficients- Cauchy and Legendre Equations. Linear differential equations of second order- transformation of the equation by changing the dependent variable/the independent variable, methods of variation of parameters and reduction of order. Simultaneous Differential Equations

References

- Erwin Kreyszig : Advanced Engineering Mathematics, John Wiley & Sons Inc., New York, 1999.
- D.A. Murray : Introductory Course on Differential Equations, Orient Longmen, (India), 1967.
- A.R. Forsyth : A Treatise on Differential Equations, Macmillan and Co. Ltd., London.
- Ross, S.L. : Differential Equations, John Willey & Sons, 2004.

Paper III : STATICS

| | | |
|------------|---|---------|
| Max. Marks | : | 30 |
| Time | : | 3 Hours |

- Note:**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination per paper in a Semester

Unit-I

Basic notions. Composition and resolution of concurrent forces – Parallelogram law of forces, Components of a force in given directions, Resolved parts of a force, Resultant of any number of coplanar concurrent forces, Equilibrium conditions for coplanar concurrent forces, equilibrium of a body resting on a smooth inclined plane. Equilibrium of three forces acting at a point – Triangle law of forces, $\lambda - \mu$ theorem, Lami's theorem. Parallel Forces.

Unit-II

Moments and Couples – Moment of a force about a point and a line, Centre of Parallel forces, theorems on moment of a couple, Equivalent couples, Varignon's theorem, generalized theorem of moments, resultant of a force and a couple, resolution of a force into a force and a couple, reduction of a system of coplanar forces to a force and a couple. Equilibrium conditions for any number of coplanar non-concurrent forces.

Friction: definition and nature of friction, laws of friction, equilibrium of a particle on a rough plane, Problems on ladders, rods, spheres and circles.

References

1. S.L. Loney : Statics, Macmillan and Company, London.
2. R.S. Verma : A Text Book on Statics, Pothishala Pvt. Ltd., Allahabad.
3. K.R.Chaudhery and A.C.Aggarwal : Elements of Mechanics, Statics and Dynamics. S Chand and Company
4. S. L. Loney : The elements of Statics and Dynamics, 5th edition, Cambridge University Press, 1947.

MATHEMATICS**B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-IV****Paper I: ADVANCED CALCULUS II**

| | | |
|------------|---|---------|
| Max. Marks | : | 30 |
| Time | : | 3 Hours |

- Note:**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination per paper in a Semester

Unit-I

Definition of a sequence, Bounds of a sequence, Convergent, divergent and oscillatory sequences, Algebra of limits, Monotonic Sequences, Cauchy's theorems on limits, Subsequences, Bolzano-Weirstrass Theorem, Cauchy's convergence criterion.

Sequential continuity and Uniform continuity of functions of single variable.

Unit-II

Series of non-negative terms. P-Test. Comparison tests. Cauchy's integral test. Cauchy's Root test. Ratio tests : Kummer's Test, D'Alembert's test, Raabe's test, De Morgan and Bertrand's test, Gauss Test, Logarithmic test. Alternating series. Leibnitz's theorem. Absolute and conditional convergence, Rearrangement of absolutely convergent series, Riemann's rearrangement theorem

References:

1. D. Soma Sundaram : A First Course in Mathematical Analysis, Narosa Publishing House, New Delhi 1997.
2. P. K. Jain and S. K. Kaushik : An Introduction to Real Analysis, S. Chand & Co., New Delhi 2000.
3. Murray R. Spiegel : Theory and Problems of Advanced Calculus, Schaum Publishing Co., New York.
4. S.C.Malik : Mathematical Analysis, Wiley Eastern Ltd., New Delhi.
5. O.E.Stanaitis : An Introduction to Sequences, Series and Improper Integrals, Holden – Dey, Inc., San Francisco, California.
6. Earl D. Rainville : Infinite Series, The Macmillan Company, New York.
7. N. Piskunov : Differential and Integral Calculus, Peace Publishers, Moscow.

Paper II : DIFFERENTIAL EQUATIONS- II

| | |
|-----------------|-----------|
| Max. Marks | : 30 |
| Time | : 3 Hours |
| Int. Assessment | : 3 Marks |

- Note:**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester.

Unit-I

Series solution of differential equations-Power Series method, Bessel and Legendre equations.

Bessel functions of First and Second kind. Legendre function. Generating function. Recurrence relation and orthogonality of Bessel and Legendre function.

Partial Differential Equations: Origin of first order Partial Differential Equations, Linear Equation of first order, Integral surfaces passing through a given curve, surfaces orthogonal to a given system of surfaces.

Unit-II

Inverse Laplace transforms- Linearity property, Shifting properties, Change of Scale Property. Inverse Laplace transforms of derivatives and integrals, Convolution theorem.

Applications of Laplace Transforms - Solution of differential equations with constant coefficients, Solution of differential equations with variable coefficients, Solution of simultaneous differential equations.

Laplace Transformation-Linearity of the Laplace transformation. Existence theorem for Laplace transformations, Shifting Theorems, Laplace transforms of derivatives and integrals, Multiplication of t^n , Division by t .

References:

1. Erwin Kreyszig : Advanced Engineering Mathematics, John Wiley & Sons Inc., New York, 1999.
2. D.A. Murray : Introductory Course on Differential Equations, Orient Longmen, (India) 1967.
3. A.R. Forsyth : A Treatise on Differential Equations, Macmillan and Co. Ltd., London.
4. Sneddon, I.N. : Elements of Partial Differential Equations, McGraw Hill, 1957.
5. J. D. Murray & M. R. Spiegel : Schaum Series, Laplace Transforms.

6. Ross, S.L. : Differential Equations, John Willey & Sons, 2004.
 7. Earl D. Rainville : Infinite Series, The Macmillan Company, New York.
 8. N. Piskunov : Differential and Integral Calculus, Peace Publishers, Moscow.

Paper III : DYNAMICS

Max. Marks : 30
 Time : 3 Hours

- Note:**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination per paper in a Semester

Unit-I

Motion of a particle with constant acceleration, acceleration of falling bodies, motion under gravity, motion of a body projected vertically upwards: Newton's Laws of Motion, Motion of two particles connected by a string, motion along a smooth inclined plane, constrained motion along a smooth inclined plane. Variable acceleration: Simple harmonic motion, elastic string.

Unit-II

Curvilinear motion of a particle in a plane: Definition of velocity and acceleration, projectiles, motion in a circle.

Work, power, conservative fields and the potential energy, work done against gravity, potential energy of a gravitational field.

Relative motion, relative displacement, velocity and acceleration, motion relative to a rotating frame of reference.

Linear momentum, angular momentum, conservation of angular momentum, impulsive forces, principle of impulse and momentum, motion with respect to centre of mass of a system of particles, collisions of elastic bodies, loss of energy during impact.

References:

1. S.L. Loney : An Elementary Treatise on the Dynamics of a Particle and of Rigid bodies, Cambridge University Press, 1956.
2. K.R.Chaudhery and A.C.Aggarwal : Elements of Mechanics, Statics and Dynamics. S Chand and Company
3. S. L. Loney : The elements of Statics and Dynamics, 5th edition, Cambridge University Press, 1947.
4. Donald T. GreenWood : Principles of Dynamics, Second Edition, Prentice Hall of India.
5. M . Ray : A Text Book on Dynamics , S. Chand and Company- 1989

COMPUTER SCIENCE SEMESTER-III

SCHEME OF EXAMINATION

| THIRD SEMESTER | | | Exam . Hrs | Ext. | Int. | Max. Marks |
|----------------|-------------|--|---------------|------|------|---------------|
| Paper – CS05 | Theory-A | Computer Organization | 3 | 30 | 5 | 35 |
| | | Object Oriented Programming using (C++) | | | | |
| Paper –CS06 | Theory-B | | 3 | 30 | 5 | 35 |
| Paper – PCS03 | Practical-C | Practical Based on Paper – CS06 | 3 | 30 | -- | 30 |

Note : Practical marks will include the appropriate weightage for proper maintenance of Lab. Record.

Paper-CS05 : Computer Organization

Objective : To teach the students the basics of computer organization, Microprocessor & basic know how about system maintenance.

- Note :*
- (i) The question paper will consist of Four units.
 - (ii) Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering the whole syllabi.
 - (iii) The students are required to attempt **ONE** question from each unit and the compulsory question.
 - (iv) All questions carry equal marks unless specified.

UNIT - I

Representation of Information : Number system: Binary, Decimal, Hexadecimal, Octal; Conversions; integer and floating point representation, character codes (ASCII, EBCDIC), error detection and correction codes: Parity bit method, Hamming code; Boolean algebra.

UNIT – II

Basic Building Blocks : Combinatorial logic design : Gates, Half Adder, Full Adder, Encoder, Decoder, Multiplexer : Sequential Building Block : Flip-Flops, Registers, Counters: Synchronous and Asynchronous Counters, Bus.

Microinstructions : Register Transfer, Arithmetic, Logical and Shift Operations; Instruction : Instruction Format, Instruction Cycle; Interrupt: Interrupt types, Interrupt Cycle.

UNIT – III

Microprocessor : Architecture of 8086/8088 Processor Model; Instruction Set; Addressing Modes: Registers used in Microprocessor.

Assembly Language : Features of Assembly Language, Machine Language vs Assembly Language, Pseudo Instruction; use of Assembly for programs: Addition, Subtraction, Multiplication using Subroutines and Basic Input/Output.

UNIT – IV

System Maintenance : Introduction to various physical components of a computer, Physical Inspection and Diagnostics on PC, types of displays and other peripheral devices, installing software; Functional description of various Internal and External cards; Viruses: Types of Computer Viruses, Detection of Viruses, Protection from Viruses.

Suggested Readings :**Essential :**

1. Mano, M.M. : *Computer System Architecture*, 3rd Ed., Dec., 1998, PHI.

Further Reading :

2. Tannenbaum, A.S. : *Structured Computer Organization*, 3rd Ed., Oct., 1993, PHI.
3. Gear, C.W. : *Computer Organisation and Programming*, McGraw Hill, 1975.
4. Langholz, G., Grancioni, J. & Kandel, A. : *Elements of Computer Organization*, Prentice Hall International, 1988.
5. Hayes : *Computer Architecture and Organization*, McGraw Hill, International Edition.
6. Sloan, M.E. : *Computer Hardware and Organization*, 2nd Edition, Galgotia Pvt. Ltd.

Paper-CS06 : Object Oriented Programming (using C++)

Objective : To teach the students the implementation of various object oriented programming concepts through C++ programming

- Note :**
- (i) The question paper will consist of Four units.
 - (ii) Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering the whole syllabi.
 - (iii) The students are required to attempt **ONE** question from each unit and the compulsory question.
 - (iv) All questions carry equal marks unless specified.

UNIT – I

Basic Concepts of Object Oriented Programming(OOP) : Object, Class, Encapsulation, Data Hiding, Inheritance, Polymorphism. Analysis and design of system using Object Oriented Approach, Benefit of OOPs.

Structure of a C++ Program : Include files, Declaration of class, Main function, I/O streams.

Classes : Class Declaration : Data Members, Member Functions, Private and Public members, data hiding and encapsulation, arrays within a class.

Objects : Creating Objects, Accessing class data members, Accessing member functions, Methods of passing arguments to functions.

UNIT – II

Object Concepts: Arrays of Objects, Objects as function arguments: Pass by value, Pass by Reference, Pointers to Objects.

Functions in C++ : Member function definition inside the class declaration and outside the class declaration, scope resolution operator, Private and Public member function, Nesting of member functions, Static and Friend functions.

UNIT – III

Constructors and Destructors: Constructors: Declaration and Definition, Default Constructors, Parameterized Constructors, Copy Constructors. *Destructors:* Definition and use.

Inheritance – Extending Classes : Concept of inheritance, base class, derived class, defining derived classes, visibility modes, private, public, protected; single inheritance : privately derived, publicly derived; making a protected member inheritable, access control to private and protected members by member functions of a derived class, multilevel inheritance, nesting of classes.

UNIT – IV

Polymorphism : Definition, types, Function overloading, Operator Overloading, Virtual functions and pure virtual functions.

Suggested Readings :**Essential :**

1. Stroustrup : *The C ++ Programming Language, Addison Wesley.*
2. E. Balaguruswamy : *Object Oriented Programming with C++, TMH.*

Further Reading :

3. Robert Lafore : *OOP in Turbo C++, Galgotia.*
4. Herbert Schildt : *Schildt's Advanced Win 95 Prog. in C & C++, TMH.*
5. Herbert Schildt : *C++ The Complete Reference, TMH.*

Paper – PCS03 : Practical Based on Paper CS06

COMPUTER SCIENCE SEMESTER-IV

SCHEME OF EXAMINATION

| FOURTH SEMESTER | | | Exam . Hrs | Ext. | Int. | Max. Marks |
|-----------------|-------------|---------------------------------|---------------|------|------|---------------|
| Paper – CS07 | Theory-A | Database Concepts | 3 | 30 | 5 | 35 |
| Paper –CS08 | Theory-B | Data Structures | 3 | 30 | 5 | 35 |
| Paper – PCS04 | Practical-C | Practical Based on Paper – CS08 | 3 | 30 | -- | 30 |

Note : Practical marks will include the appropriate weightage for proper maintenance of Lab. Record.

Paper-CS07: Database Concepts

Objective : To teach the underlying concepts of database system in depth to students.

- Note :*
- (i) The question paper will consist of Four units.
 - (ii) Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering the whole syllabi.
 - (iii) The students are required to attempt **ONE** question from each unit and the compulsory question.
 - (iv) All questions carry equal marks unless specified.

UNIT – I

Basic Concepts: A Historical perspective, File Systems vs. DBMS, Characteristics of the Data Base Approach, Abstraction and Data Integration, Database users, Advantages and Disadvantages of DBMS, Implication of Database approach; Data Independence.

UNIT – II

Relational Data Model: Relational model concepts, Integrity constraints over Relations, Conventional Data Models : An overview of Network and Hierarchical Data Models. The 12 Rules (Codd's Rule) for an RDBMS; Entity Relationship model.

UNIT – III

Relational Algebra and Calculus: Storage Organization for Relations, Relational Algebra: Operations - union, intersection, difference, Cartesian product, projection, selection, division and relational algebra queries; Relational Calculus: Tuple oriented and domain oriented relational calculus and its operations.

UNIT – IV

Advance concepts: Client-Server Architecture, 3-tier Architecture of database, Distributed databases, Normalization: First, second and third Normal Form, Boyce Codd Normal Form; Database Integrity: entity and referential; Security: , Concurrency, Recovery

Suggested Reading**Essential :**

1. Date, C.J., 1981 : *An Introduction to Data Base Systems*, Vols. I and II, Addison-Wesley.

Further Readings

2. Ullman, Jeffrey D., : *Principles of Data Base Systems*, 2nd Edition, Galgotia Publ. Pvt. Ltd. 1982.
3. Whittington, R.P. : *Data Base System Engineering*, Clavendon Press.
4. Pratt, P., 1987 : *Data Base Systems Management and Design*, Boyd and Fraser Publ. Comp.

Paper-CS08 : Data Structures

Objective : To teach the students various data structures and operations performed on them using algorithms. The students will be capable to implement these operations using any programming language.

- Note :**
- (i) The question paper will consist of Four units.
 - (ii) Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering the whole syllabi.
 - (iii) The students are required to attempt **ONE** question from each unit and the compulsory question.
 - (iv) All questions carry equal marks unless specified.

UNIT – I

Basic Concepts: Introduction to Complexity, Data Structure and Data Structure operations. Applications of Data Structure, Basic data Structures; **Arrays:** Introduction, Types of Array, Memory representation, Applications and operations. **Stacks:** Introduction, memory representation, Applications and operations

UNIT – II

Linked List: Operations:-traversing, searching, inserting, deleting, operations on header linked list, circular linked list, doubly linked list, memory representation, Applications, polynomial manipulation; **Queue:** Introduction, Types, Memory Representation and Applications.

UNIT – III

Trees – Definition and Basic concepts, Representation in Contiguous Storage, Binary Tree, Binary Tree Traversal, Binary Search tree; **Graphs:** Introduction, Memory Representation, Graph Traversal (DFS and BFS)

UNIT – IV

Searching: Binary and Linear Search; **Sorting:** Bubble sort, Insertion sort, Selection sort, Merge Sort, Quick sort.

Suggested Readings :**Essential :**

1. Lipschultz L. Seymour, 2001 : Data Structure, Schaum Outline Series, TMH, New Delhi.

Further Readings :

2. Tannenbaum, Aaro M., 1990 : Data Structure Using C, Pearson.

Paper – PCS04 : Practical Based on Paper CS08 – Implement Data Structures Operations using C / C++.

STATISTICS

B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024

SEMESTER-III

- Note:**
1. A candidate shall offer these subjects in B.A./B.Sc. only if he/she takes up Mathematics as a subject in B.A./B.Sc.
 2. A candidate shall offer B.A./B.Sc. 2nd year only if he/she had taken up the corresponding subject in B.A./B.Sc.1st year.
 3. There are two papers with codes 201 and 202 in the subject of Statistics in B.A./B.Sc. 3rd semester. These are to be taught simultaneously through out the semester.
 4. 8 lectures (of 45 minutes each) for theory per week and 4 lectures (of 45 minutes each) for practical per week amounting in all to 12 lectures per week for two papers (one theory and one practical) shall be allotted for the teaching.

Paper- 201: STATISTICAL INFERENCE

| | |
|----------------------------|------------------|
| Maximum Marks | : 75 |
| Theory | : 65 |
| Internal Assessment | : 10 |
| Time allowed | : 3 hours |

Objective: The objective of the course is to provide a systematic account of testing and closely related theory of point estimation and confidence sets, together with their applications.

Notes:

1. There will be in all nine(9) questions, all of equal marks. The first question is **compulsory** and will be of short answer type covering the entire syllabus. Out of the remaining eight(8) questions, four(4) questions will be set from each Unit. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each Unit.
2. Simple non-programmable calculator is allowed.
3. Statistical tables and log tables will be provided on request.

UNIT-I

Concept of a statistic and its sampling distribution. Point estimate of a parameter, concept of unbiasedness, consistency, efficiency and sufficiency (only the definitions and examples). Maximum likelihood estimation (standard distributions) Standard errors of sample mean and sample proportion. Sampling distribution of sum of independent binomial and Poisson random variables. Independence of sample mean and variance in random sampling from a normal distribution (without derivation).

Statements and sampling distributions of chi-square, t & F distributions and their relationships.

UNIT-II

Statistical Tests and Interval Estimation : Null and alternative hypothesis, two types of errors, level of significance and p-value. Testing for the mean and variance of a normal distribution, testing of equality of means and variances of two univariate normal distributions, and their related confidence intervals. Testing the significance of sample correlation coefficient.

Large Sample Tests : Use of central limit theorem for testing and interval estimation of a single mean and a single proportion, difference of two means and two proportions. Fisher's Z-transformation and its uses. Chi-square test for goodness of fit and testing of independence of attributes, Yate's correction.

References:

1. Goon A.M., Gupta M.K., Dasgupta. B. (2005) : Fundamentals of Statistics, Vol.I, World Press, Calcutta.
2. Miller, I. and Miller, M. (2002) : John E. Freund's Mathematical Statistics (6th addition, low Price edition), Prentice Hall of India.

Additional References:

1. Mood A.M., Graybill F.A. and Boes D.C.(1974) : Introduction to the Theory of Statistics, McGraw Hill.
2. Bhat B.R., Srivenkatramana T and Rao Madhava K.S.(1997) : Statistics : A Beginner's Text, Vol.I, New Age International (P) Ltd.
3. Snedecor G.W and Cochran W.G.(1967) : Statistical Methods. Iowa State University Press.
4. Spiegel, M.R , Stephens, L.J. and Kumar N. (2010) : Schaum's outlines *Statistics*, (4th edition) Tata McGraw Hill Education Private Limited

Paper- 202: PRACTICAL (SEMESTER-III)**Maximum Marks : 25****Time allowed : 3 hours****(Viva voce: 5 marks; record of the year: 5 marks; Annual Paper: 15 marks)**

Note:The Practical Question Paper will contain five questions from the following topics. A student will be required to attempt three questions, each of 5marks, in three hours duration.

1. Drawing random samples from standard distributions: Uniform, Exponential and Normal.
2. Tests of significance based on t,chi-square and F for one sample, two samples and paired sample problems; significance of correlation coefficient. Use of Z-Transformation for testing $\rho = \rho_0$.
3. Large sample tests for means and proportions, tests of goodness of fit and independence of attributes in contingency tables.
4. Confidence intervals for one and two sample problems (mean, variance and proportion).

STATISTICS

B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024 SEMESTER-IV

- Note:**
1. A candidate shall offer this subject in B.A./B.Sc. only if he/she takes up Mathematics as a subject in B.A./B.Sc.
 2. A candidate shall offer this subject in B.A./B.Sc. 2nd year only if he/she had taken up the corresponding subject in B.A./B.Sc. 1st year.
 3. There are two papers code named papers 203 and 204 in the subject of Statistics in B.A./B.Sc. 4th semester. These are to be taught simultaneously throughout the semester.
 4. 8 lectures (45 minutes each) for theory per week and 4 lectures (45 minutes each) for practical per week amounting in all to 12 lectures per week for two papers (one theory and one practical) shall be allotted for the teaching.

Paper - 203: SAMPLE SURVEYS, DESIGN AND ANALYSIS OF EXPERIMENTS

| | |
|----------------------------|------------------|
| Maximum Marks | : 75 |
| Theory | : 65 |
| Internal Assessment | : 10 |
| Time allowed | : 3 hours |

Objective: The objective of this course is to acquaint the students about the need & merits of sampling over census and the implementation of various sampling schemes along with their merits, demerits and comparisons in appropriate practical situations. The students will get exposure to various statistical designs leading to the analysis of variance, elimination of heterogeneity of the data and construction of designs.

Notes:

1. There will be in all nine (9) questions, all of equal marks. The first question is **compulsory** and will be of short answer type covering the entire syllabus. Out of the remaining eight (8) questions, four(4) questions will be set from each Unit. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each Unit.
2. Simple non-programmable calculator is allowed.
3. Statistical tables and log tables will be provided on request.

UNIT-I

Concepts of population and sample, need for sampling, census and sample surveys, basic concepts in sampling. Sample selection and sample size. Sampling and non-sampling errors.

Some basic sampling methods for estimation of population mean, variance and standard error of estimates : simple random sampling (SRS) with and without replacement, stratified random sampling under various allocations and systematic sampling.

UNIT-II

Linear Models : concepts of fixed effect, random effect and mixed effect models. Analysis of variance for one way, two-way (with one observation per cell and with multiple but equal observations per cell) classifications under the fixed effect models.

Need for design of experiment, three fundamental principles of design, basic designs-CRD, RBD, LSD and their analysis.

References:

1. Goon A.M., Gupta M.K., Das Gupta. B. (2005) : Fundamentals of Statistics, Vol.II, World Press, Calcutta.
2. Singh, D. and Chaudhary, F.S (1986). : Theory and Analysis of Sample Survey Designs, John Wiley and sons.

Additional References:

1. Sukhatme, B.V (1984) : Sample Survey Methods and Its Applications, Indian Society of Agricultural Statistics.
2. Murthy M.N (1967) : Sampling Theory and Methods, Statistical Publishing Society, Calcutta.
3. Sampath S. (2000) : Sampling Theory and Methods, Narosa Publishing House.
4. Dass M.N. and Giri (1986) : Design and Analysis of Experiments, Springer Verlag.
5. Cochran W.G. and Cox G.M (1992) : Experimental Designs, John Wiley and Sons.
6. Montgomery, D. C. (2000) : Design and Analysis of Experiment, John Wiley, New York.

Paper - 204: PRACTICAL (SEMESTER-IV)

Maximum Marks : 25

Time allowed : 3 hours

(Viva voce : 5 marks; record of the year : 5 marks; Annual Paper : 15 marks)

Note : The Practical Question Paper will contain five questions from the following topics. A student will be required to attempt three questions, each of 5 marks, in three hours duration.

1. Selection of sample and determination of sample size : Simple random sampling (SRS), stratified SRS, allocation problems in stratified SRS and systematic sampling.
2. Analysis of variance for one-way and two-way classifications. Analysis of CRD, RBD and LSD.

APPLIED STATISTICS

SEMESTER-III

- Note:**
1. This course shall not be opted for along with courses in B.A./B.Sc Mathematics and/or B.A./B.Sc.Statistics.
 2. The candidate opting for this course will not be eligible for admission to M.A./M.Sc. Statistics.
 3. There is one paper with code 201AS in B.A./B.Sc. Semester-III having a total of 100 marks.
 4. 9 Lectures of 45 minutes each per week shall be allotted for the teaching.

PAPER - 201AS: MATHEMATICAL METHODS - II

| | | |
|----------------------------|----------|----------------|
| Maximum Marks | : | 100 |
| Theory | : | 90 |
| Internal Assessment | : | 10 |
| Time allowed | : | 3 hours |

Objective: The objective of the course is to provide an exposure to the Coordinate Geometry of three dimensions, Calculus of several variables and theory of Matrices.

Note: There will be in all nine(9) questions. The first question is compulsory and will be of short answer type covering the whole syllabus. This question will have (9) parts of 2 marks each. Of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidates will be required to attempt five (5) questions in all including the compulsory first question and two questions from each Unit.

UNIT-I

Coordinate Geometry of 3 Dimensions : Cartesian, spherical coordinates, equations of line, plane, sphere and ellipsoid.

Matrices and Linear Algebra : Determinants, algebra of matrices, rank of a matrix, inverse of a matrix, symmetric matrices (upto 4×4 matrices only).

UNIT-II

Matrices and Linear Algebra : Systems of Linear equations and their solutions.

Calculus of Several Variables : Functions of two variables, Partial derivatives and double integrals. Applications to evaluation of area.

Books Prescribed

1. Ayres F. (1999) : First Year College Mathematics, Schaum Series, Mc Graw Hill, New York.
2. Ayres F.(1980) : Matrices, Schaum Series, Mc Graw Hill, New York.

Books suggested for supplementary Reading

1. Kindle J.H. (1990) : Analytical Geometry, Schaum Series, McGraw Hill, New York.
2. Ayres F. (1999) : Calculus, Schaum Series, McGraw Hill, New York.
3. Spiegel M.R. (2002) : Advanced Calculus, Schaum Series, Mc Graw Hill, New York.

APPLIED STATISTICS**SEMESTER-IV**

- Note:**
1. This course shall not be opted for along with courses in B.A./B.Sc Mathematics and/or B.A./B.Sc. Statistics.
 2. The candidate opting for this course will not be eligible for admission to M.A./M.Sc. Statistics.
 3. There is one paper with code 202AS in the subject of Applied Statistics in B.A./B.Sc. Semester IV, having a total of 100 marks.
 4. 9 Lectures of 45 minutes each per week shall be allotted for the teaching.

PAPER- 202 AS: STATISTICAL METHODS

| | | |
|----------------------------|----------|----------------|
| Maximum Marks | : | 100 |
| Theory | : | 90 |
| Internal Assessment | : | 10 |
| Time allowed | : | 3 hours |

Objective: The objective of the course is to make the students conversant with various techniques used in summarization and analysis of data. The focus will be both on theoretical as well as practical approach.

Note:

1. There will be in all nine (9) questions. The first question is compulsory and will be of short answer type covering the whole syllabus. This question will have (9) parts of 2 marks each. of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidates will be required to attempt five (5) questions in all including the compulsory first question and two questions from each Unit.
2. Simple non-programmable calculator is allowed.
3. Statistical tables and log tables will be provided on request.

UNIT-I

Compilation, classification, tabulation and diagrammatic representation of statistical data. Concepts of Statistical population, random sample and frequency curve, measures of location, dispersion, skewness and kurtosis.

Two dimensional random variable, joint probability distributions, marginal and conditional probability distributions, conditional expectation, covariance and correlation coefficient.

UNIT-II

Measures of association and contingency, correlation and linear-regression involving two variables. Bivariate normal distributions.

Statement of weak law of large numbers and central limit theorem for independent and identical random variables. Sampling distributions of means, chi-square, t and F in sampling from normal populations (without proof).

Books recommended

1. Goon, A.M.,Gupta, M.K.and Dasgupta, : Fundamentals of Statistics,Vol.1 Chapter 1to6, 9, 10, 13(only the relevant portion from these chapters as suggested by the body of the syllabus).
B (2005).
2. P.L.Meyer, (1971) : Introductory Probability and Statistical Applications, Addison Wesley. American Pub. Co.

PHYSICS

B.Sc. (GENERAL) SECOND YEAR (3rd and 4th Semester) EXAMINATION, 2023-2024

General Instructions for teachers, students and paper setters:

1. There will be three papers of theory and one laboratory (practical course). Each of the theory papers is allocated 25 marks including 3(three) marks for the Internal Assessment. The Practical examination is of 25 marks including 3 (three) marks for the Internal assessment. The exams will be conducted every semester.
2. The number of lectures per week will be three for each theory paper and six for practicals.
3. The examination time for each theory paper as well as practical paper will be three hours.
4. Each theory paper will consist of seven questions comprising of three sections. First two sections will comprise of three questions from each of Units I and II of syllabus, and the third section will comprise of one compulsory question of ten short answer type parts covering whole syllabus. The question paper will be set for 44 marks - All the questions in first and second sections will carry 9 (nine) marks each and the compulsory question will carry 8 marks. Student will attempt two questions from each of the first two sections and any eight parts of the compulsory questions. After evaluation of the answer books out of 44 marks, the marks will be given out of 22 marks.
5. The numerical problems/exercises in the question paper should be 25-30%.
6. The use of Non-programmable calculators will be allowed (paper setter should explicitly mention this in the question paper) in the examination centre but these will not be provided by the University/College. Mobile phones and pages are not allowed in the examination hall.
7. External examiners will be sent for Practical examinations.

PHYSICS

SEMESTER-III

Papers, marks and teaching hours allocation:

| | | |
|---------|--|------------------------|
| Paper A | : Statistical Physics and Thermodynamics – I | Total Teaching hrs. 30 |
| Paper B | : Optics and Lasers –I | Total Teaching hrs. 30 |
| Paper C | : Quantum Physics-I | Total Teaching hrs. 30 |
| | Physics Practicals | Total Teaching hrs. 45 |

Paper A : STATISTICAL PHYSICS AND THERMODYNAMICS-I (30 Hrs.)

UNIT-I

Basic ideas of Statistical Physics, Scope of Statistical Physics, basic ideas about probability, distribution of four distinguishable particles in two compartments of equal size. Concept of macrostates, microstates, thermodynamic probability, effects of constraints on the system, distribution of n particles in two compartments, deviation from the state of maximum probability, equilibrium state of dynamic system, distribution of distinguishable n particles in k compartments of unequal sizes.

UNIT-II

Phase space and its division into elementary cells, three kinds of statistics. The basic approach in the three statistics. Maxwell-Boltzman statistics applied to an ideal gas in equilibrium, experimental verification of Maxwell-Boltzman's law of distribution of molecular speeds.

Need of quantum statistics--B.E. statistics, derivation of Planck's law of radiation, deduction of Wien's displacement law and Stefan's law from Planck's law, F.D. statistics, Comparison of M.B., B.E. and F.D. statistics.

Books Suggested :

Essential Readings :

1. "Statistical Physics and Thermodynamics", V.S. Bhatia, (Shoban Lal Nagin Chand, Jalandhar).
2. "A Treatise on Heat" Saha and Srivastava (Indian Press, Ahmedabad, 1972).

Further Readings:

1. *Thermal Physics* by C. Kittel & H. Kroemer, CBS Pub., 1987.
2. *Thermal Physics*, S.C. Garg, R.M. Bansal, and C.K. Ghosh, TMH, 2000.

Paper-B : OPTICS AND LASERS-I**(30 Hrs.)****UNIT-I**

Interference : Concept of coherence, spatial and temporal coherence, coherence time, coherence length, area of coherence. Conditions for observing interference fringes. Interference by wavefront division and amplitude division. Young's double slit experiment. Lloyd's mirror and Fresnel's biprism, phase change on reflection. Newton's rings, Michelson interferometer—working, principle and nature of fringes. Interference in thin films, Role of interference in anti-reflection. Multiple beam interference, Fabry-Perot interferometer, nature of fringes, finesse.

UNIT-II

Diffraction : Huygen-Fresnel theory half period zones, zone plates. Distinction between Fresnel and Fraunhofer diffraction. Fraunhofer diffraction due to single slit and intensity distribution, double slits & multiple slits (qualitative). Fraunhofer diffraction at rectangular (qualitative discussion) and circular apertures. Effects of diffraction in optical imaging, resolving power of microscope and telescope, diffraction grating, its use as a spectroscopic element, resolving power, Moire's fringes.

Polarization : Concept and analytical treatment of unpolarised, plane polarized and elliptically polarized light. Double refraction, Nicol prism, sheet polarisers, retardation plates. Production and analysis of polarized light (quarter and half wave plates).

Books Suggested :***Essential Readings:***

1. *Optics*, Jenkins and White, McGraw Hill.
2. *Optics*, Ajoy Ghatak, McMillan India.
3. *Physics for Degree Students*, C. L. Arora and P .S. Hemne, S. Chand & Co., 2014.

Further Readings:

1. *Optics*, Born and Wolf, Pergamon.

Paper-C : QUANTUM PHYSICS-I**(30 Hrs.)****UNIT-I****Formalism of Wave Mechanics :**

- (i) Planck's formula of Black body radiation and energy quantization, Wave-particle duality – Photoelectric effect, X-ray diffraction, Compton effect, Pair production, Photon and gravity. De Broglie waves, wave packet, Phase velocity and Group velocity, Electron microscope, Particle in a box, Particle diffraction, Davisson-Germer experiment, Interferometry with particles. Uncertainty principle with illustrations, Principle of complementarity. (Chapters 2 and 3 of book 1 or Chapters 1-3 of book 2)
- (ii) Quantum mechanics, Wave equation, Plausible arguments leading to time-dependent Schrodinger equations, Born's interpretation of Wave function, complex character, continuity and boundary conditions, probability interpretation, normalization, Probability current, Probability conservation equation, Principle of superposition.
- (iii) Fundamental postulates of quantum mechanics. Eigenvalues and eigenfunctions. Operator formalism, Position, momentum and energy operators, expectation values, Ehrenfest theorem, Hermitian operators.

(Chapter 5 of book 1 and book 2)

UNIT-II**Problems in One and Three Dimensions :**

- (a) Steady-state Schrodinger equation, Application to stationary states for one dimension, Potential step, potential barrier, Tunnel effect examples, Scanning Tunneling microscope, rectangular potential well, Linear harmonic oscillator.
- (ii) Schrödinger equation for spherically symmetric potential, spherical harmonics, hydrogen atom energy levels and eigenfunctions, Principal, Orbital and Magnetic quantum numbers, Electron probability density.

(Chapter 6 of book 1 and book 2)

Books Suggested :**Essential Readings :**

1. *Concept of Modern Physics*, A. Beiser, S. Mahajan and S. R. Choudhury, Tata McGraw Hill, 6th Edition.
2. *Quantum Physics of Atoms, Molecular*, R. Eisberg & R. Resnick, Second Edition, John Wiley, 2002.
3. *Physics for Degree Students*, C.L. Arora and P.S. Hemne, S. Chand & Co., 2014

Further Readings :

1. *Modern Physics*, J. Bernstein, P.M. Fishbane, S.G. Gasiorowicz, Pearson, 2000.
2. *Elements of Modern Physics*, S.H. Patil, McGraw Hill, 1998.
3. *Quantum Mechanics*, E. Merzbacher, II Ed., John Wiley.

PHYSICS PRACTICALS

The students are required to perform all the Nine experiments from each of the Units I and Unit II .The Practical examination will be held along with the fourth semester examination.

The aim of the project work is to develop the scientific and technical temper in the students and as such it may consist of development of a laboratory experiment,fabrication of a device or electronic circuit etc. The student will prepare a project report of about 10 pages. Assessment of the project work will be done on the basis of the effort put in the execution of the project, report prepared and viva-voce.

General Guidelines for Physics Practical Examinations :

Total : 50 marks

- | | |
|---|----|
| 1. The distribution of marks is as follows : | |
| (i) One full experiment out of section–A requiring the student to take some data, analyse it and draw conclusions. (Candidates are expected to state their results with limits of error). | 20 |
| (ii) One exercise based on experiment or Computer Programming from the Unit assigned to the student for the semester | 7 |
| (iii) Viva-Voce and Record (Practical file) | 10 |
| (iv) Project | 8 |
| (v) Internal Assessment | 5 |

Note for Examiners :

2. The marks scored under each head must be clearly written on the answer sheet.
3. There will be one session of 3 hours duration. The paper will have two sections. Section–A will consist of 4 experiments from each of Units I and Unit II, out of which an examinee will mark 3 experiments from either of units and one of these is to be allotted by the external examiner.
4. Section–B will consist of exercises/computer based activities which will be set by the external examiner on the spot. The length of the exercises should be such that any of these could be completed in one hour.
5. The examiner should take care that the experiment allotted to an examinee from section-A and exercise allotted from section–B are not directly related to each other.
6. Number of candidates in a group for practical examination should not exceed **20**.
7. In a single group, no experiment be allotted to more than three examinees in the group.

List of Experiments :**UNIT-I****A. Statistical Physics and Thermodynamics :**

- I. To study adiabatic expansion of a gas.
- II. To measure thermal expansion of crystal using interference fringes.
- III. To measure thermal conductivity in poor conductor by Lee's method.
- IV. Thermo emf calibration, comparison.
- V. Total radiation law, temperature dependence of radiation.
- VI. To study Probability distribution using coloured dice, coins.

B. Optics and Lasers :

- VII. To determine the refractive index of a liquid using spectrometer.
- VIII. To determine the Cauchy's constants.
- IX. To study the refractive index of a doubly refracting prism.
- X. Study of rotation of plane of polarization with a polarimeter.
- XI. To determine the wave length of a given light using biprism.

Exercises :

1. To measure the thermo e.m.f.
2. To determine the heating efficiency of an electric kettle with varying voltages.
3. To measure the angle of rotation of plane of polarization for the given liquid.
4. To determine the least count and setup the spectrometer for minimum deviation position of the prism.

Computer Based Activities : Elementary C language programs.

1. Motion of particle in a central force field.
2. Calculation of days between two dates of a year.
3. To check if triangle exists and the type of the triangle.

UNIT-II**C. Optics and Lasers :**

- I. To determine the wave length and dispersive power using plane diffraction grating (use Hg source).
- II. To determine the resolving power of a telescope.
- III. To determine the resolving power of a grating.
- IV. Set up Newton's rings to determine wave length of sodium light.
- V. To measure an inaccessible height using sextant.
- VI. To determine the principal points of a lens system.
- VII. To determine the divergence and wave length of a given laser source.

D. Quantum Physics:

VIII. To study the Photoelectric effect and determine the value of Planck's constant.

IX. To study the gas discharge spectrum of hydrogen.

X. To study the absorption spectra of iodine vapours.

XI. To determine the ionization potential of mercury.

Exercises :

1. To measure the diameter of Newton's rings.
2. Study of variation of light intensity using photovoltaic cell/inverse square law.
3. To determine the angle of wedge using interference method.
4. To measure the angle of elevation of a tall building.

Computer Based Activities : Elementary C language programs.

1. To find the sum of the sine and cosine series and print out the curve.
2. To find Sum and Product of Matrices
3. Motion of a projectile using computer simulation.

Text and Reference Books :

1. *A Laboratory Manual of Physics for Undergraduate Classes*, D.P. Khandelwal.
2. *B.Sc. Practical Physics*, C.L. Arora (S. Chand) & Co. (2014)
3. *Numerical Analysis* by C. Dixon.
4. *Programming with C, Schaum series* by Byron Gottfried & Jitender Chhabra.

PHYSICS**SEMESTER – IV****Papers, marks and teaching hours allocation:**

| | | | |
|---------|---|---|------------------------|
| Paper A | : | Statistical Physics and Thermodynamics – II | Total Teaching hrs. 30 |
| Paper B | : | Optics and Lasers –II | Total Teaching hrs. 30 |
| Paper C | : | Quantum Physics-II | Total Teaching hrs. 30 |
| | | Physics Practicals | Total Teaching hrs. 45 |

Paper A : STATISTICAL PHYSICS AND THERMODYNAMICS-II**(30 Hrs.)****UNIT-I**

Statistical definition of entropy, change of entropy of a system, additive nature of entropy, law of increase of entropy, reversible and irreversible processes with examples. Work done in a reversible process. Examples of increase of entropy in natural processes. Entropy and disorder. Brief review of the terms and Laws of Thermodynamics, Carnot's Cycle. Entropy changes in Carnot's Cycle. Applications of thermodynamics to thermoelectric effect, change of entropy along a reversible path in a P.V. diagram, entropy of a perfect gas. Equation of state of ideal gas from simple statistical consideration. Heat death of the universe.

UNIT-II

Derivation of Maxwell's thermodynamical relations and applications, cooling produced by adiabatic stretching, adiabatic compression, change of internal energy with volume. Expression for $(C_p - C_v)$, change of state and Clayperon Equation. Thermodynamical treatment of Joule-Thomson effect. Use of Joule-Thomson effect for liquification of helium. Production of very low temperature by adiabatic demagnetisation.

Books Suggested :***Essential Readings:***

1. "Statistical Physics and Thermodynamics", V.S. Bhatia, (Shoban Lal Nagin Chand, Jalandhar)
2. "A Treatise on Heat" Saha and Srivastava (Indian Press, Ahmedabad, 1972.)

Further Readings :

1. *Thermal Physics* by C. Kittel & H. Kroemer, CBS Pub., 1987
2. *Thermal Physics*, S.C. Garg, R.M. Bansal, and C.K. Ghosh, TMH, 2000.

Paper-B : OPTICS AND LASERS-II**(30 Hrs.)****UNIT-I***Laser Fundamentals :*

Interaction of light with matter : Absorption, spontaneous emission, stimulated emission, Wave mechanical explanation, Properties of Spectral Lines, Temporal and spatial coherence, Characteristics of stimulated emission, Einstein coefficients and their relations, Light amplification and threshold condition, Population inversion, Kinetics of optical absorption (qualitative account only), Qualitative account of Collisional broadening, Doppler broadening & Natural broadening, Mechanism of Luminescence.

Lasing action, Components of Laser, Elementary theory of optical cavity, longitudinal and transverse modes, Principal pumping schemes, Three level and four level laser schemes.

UNIT-II

Laser Systems : Types of lasers, Ruby and Nd : YAG lasers. He-Ne, Dye and CO₂ lasers – construction, mode of creating population inversion and output characteristics.

Applications of lasers—a general outline, Holography. Principle, recording of hologram and reconstruction of image.

Fiber Optics : Photonics, Optical fibre, Construction, Numerical aperture, acceptance angle, skip distance, Step index fibre – single mode and multimode, Graded index fibre, Losses in optical fibre, Material losses and Rayleigh scattering, bending losses, Intermodal and intramodal dispersion.

Splicing techniques, Optical fibre based communication system, Medical applications.

Books Suggested :***Essential Readings :***

1. *Laser Fundamentals*, W.T. Silfvast, Foundation Books.
2. *Lasers and Non-linear Optics*, B.B. Laud, Wiley Eastern Limited.
3. *A text book of Optics*, Subrahmanyam N., Lal B. and Avadhanulu, M. N., S. Chand & Co., 2012.
4. *Optical Fiber Communication*, Keiser, MH.

Further Readings :

1. *Lasers*, Svelto Pergmon.

Paper-C : QUANTUM PHYSICS-II**(30 Hrs.)****UNIT-I**

Radiative transitions, selection rules and life times,

Spectrum of hydrogen atom.

Normal Zeeman effect and experiment, Degeneracy of H-atom energy levels, fine structure, Electron angular momentum, Larmor's frequency, electron spin angular momentum, Exclusion principle, Stern-Gerlach experiment, spin-orbit coupling, electron magnetic moment, total angular momentum, Hyperfine structure, examples of one electron systems, Anomalous Zeeman effect, Lande-g factor (sodium D-lines), Paschen-Back Effect, Stark Effect.

(Chapters 6 & 7 of Book 1, Chapters 8-10 of Book 2)

UNIT-II

Symmetric and Antisymmetric wave functions, exclusion principle, Many electron atoms, Slater determinant, Electronic configurations, Hund's rule, Spin-Orbit coupling, L-S coupling, J-J couplings, term symbols. Atomic spectra of H, Na, He and Hg, selection rules.

X-ray spectra, nomenclature, Selection rules, Mosley law, Auger effect.

Molecular bonding, H_2^+ ion and H_2 molecules, Complex molecules, molecular spectra, selection rules, symmetric structures, rotational vibrational levels and spectra of diatomic molecules, vibration-rotation spectra, electronic spectra of molecules, Franck Condon principle, fluorescence and phosphorescence, Raman Effect, Magnetic resonance experiments.

(Chapters 7 & 8 of Book 1, Chapter 12 of Book 2)

Books Suggested :***Essential Readings :***

1. *Concepts of Modern Physics*, A. Beiser, S. Mahajan and S. R. Choudhary, Tata McGraw Hill, 6th Edition.
2. *Quantum Physics of Atoms, Molecular*, R. Eisberg & R. Resnick, Second Edition, John Wiley, 2002.
3. *Physics for Degree Students*, C.L. Arora and P.S. Hemne, S.Chand & Co., 2014.
4. *Elements of Modern Physics*, S.H. Patil, McGraw Hill, 1998.

Further Readings :

1. *Fundamentals of Molecular Spectroscopy*, C.N . Banwell, T.M.H., 1972
2. *Atomic and Molecular Spectra*, Rajkumar (Kedarnath Ramnath Prakashan, Meerut).
3. *Atomic Spectra*, H.G. Kuhn, Academic Press, N.Y.

PHYSICS PRACTICALS

The Practical examination will be held along with the fourth semester examinations. General Guidelines for Physics Practical Examinations and syllabus is given in syllabus for Semester III.

CHEMISTRY**B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****Scheme of Teaching and Examination****SEMESTER-III**

| <i>Paper</i> | <i>Course</i> | <i>Teaching Hrs.</i> | | <i>Max. Marks</i> |
|--------------|-----------------------|----------------------|---------------------|--------------------------|
| IX | Inorganic Chemistry-A | 30 | 3 periods per week | 22+3 internal assessment |
| X | Organic Chemistry-A | 30 | 3 periods per week | 22+3 internal assessment |
| XI | Physical Chemistry-A | 30 | 3 periods per week | 22+3 internal assessment |
| XII | Laboratory Practicals | | 6 periods per week | 22+3 internal assessment |
| Total | | 15 | periods/week | 100 |

SEMESTER-IV

| <i>Paper</i> | <i>Course</i> | <i>Teaching Hrs.</i> | | <i>Max. Marks</i> |
|--------------|-----------------------|----------------------|---------------------|--------------------------|
| XIII | Inorganic Chemistry-B | 30 | 3 periods per week | 22+3 internal assessment |
| XIV | Organic Chemistry-B | 30 | 3 periods per week | 22+3 internal assessment |
| XV | Physical Chemistry-B | 30 | 3 periods per week | 22+3 internal assessment |
| XVI | Laboratory Practicals | | 6 periods per week | 22+3 internal assessment |
| Total | | 15 | periods/week | 100 |

Total Marks**SEMESTER-III- 100****SEMESTER-IV- 100**

200

CHEMISTRY**SEMESTER-III**

| <i>Paper</i> | <i>Course</i> | <i>Teaching Hrs.</i> | | <i>Max. Marks</i> |
|--------------|-----------------------|----------------------|--------------------|--------------------------|
| IX | Inorganic Chemistry-A | 30 | 3 periods per week | 22+3 internal assessment |
| X | Organic Chemistry-A | 30 | 3 periods per week | 22+3 internal assessment |
| XI | Physical Chemistry-A | 30 | 3 periods per week | 22+3 internal assessment |
| XII | Laboratory Practicals | | 6 periods per week | 22+3 internal assessment |
| Total | | 15 periods/week | | 100 |

Paper-IX: INORGANIC CHEMISTRY-A**Time : 3 Hrs****Max. Marks : 22+3****60 Hrs. (2 Hrs/Week)****3 Periods/Week****OBJECTIVE OF THE COURSE**

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester system) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I**(8 Hrs.)****Chemistry of Elements of First Transition Series:**Characteristic properties of *d*-block elements.

Properties of the elements of the first transition series, their simple compounds and complexes, illustrating relative stability of their oxidation states, coordination number and geometry.

UNIT-II**(7 Hrs.)****Chemistry of Elements of Second and Third Transition Series:**

General characteristics, comparative treatment with their *3d*-analogues in respect of ionic radii, oxidation states, magnetic behaviour, spectral properties and stereochemistry.

UNIT-III**(8 Hrs.)****Chemistry of Coordination Compounds-I**

Werner's coordination theory and its experimental verification, effective atomic number concept, chelates, nomenclature of coordination compounds, isomerism in coordination compounds

UNIT-IV**(7 Hrs.)****Chemistry of Coordination Compounds-II**

Valence bond theory of transition metal complexes. Properties of Coordination compounds i.e. magnetic properties, colours (Qualitative approach only), use of coordination compounds.

Instructions for paper setters and candidates:

- i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.
- ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.
- iii. Compulsory question carries six marks and remaining all questions carry four marks each.

Books Suggested

1. Cotton, F.A., Wilkinson, G., Gaus, P.L., Basic Inorganic Chemistry; 3rd edition, Pubs: John Wiley Sons. 1995.
2. Lee, J.D., Concise Inorganic Chemistry; 4th edition, Pubs: Chapman Hall Ltd., 1991.
3. Shriver, D.E., Alkins, P.W., Langford, C.H., Inorganic Chemistry; 4th edition, Oxford Publisher: Oxford University Press, 2006.
4. Douglas, B. McDaniell, D., Alexander, J., Concepts and Models of Inorganic Chemistry; 3rd edition, Pubs: John Wiley and Sons Inc., 1994.
5. Porterfield, W.W., Wesley, A., Inorganic Chemistry; Pubs: Addison-Wesley Publishing Company, 1984.
6. Miessler, G.L., Larr, D.A., Inorganic Chemistry; 3rd edition, Pubs: Pearson Education Inc., 2004.
7. Jolly, W.L., Modern Inorganic Chemistry; 2nd edition, Pubs: McGraw-Hill Publishing Company Limited, 1991.
8. Purcell, K.F., Kotz, J.C., Inorganic Chemistry; Pubs: W.B. Saunders Company, 1977.
9. Puri, B.R., Sharma, L.R., Kalia, K.C., Principles of Inorganic Chemistry; 30th edition, Pubs: Milestones Publisher, 2006-07.

Paper-X: ORGANIC CHEMISTRY-A

Time : 3 Hrs
Max. Marks : 22+3
60 Hrs. (2 Hrs/Week)
3 Periods/Week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester system) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I**(8 Hrs.)****Alcohols and Phenols:**

Classification and nomenclature

Monohydric alcohols-Nomenclature, methods of formation by reduction of aldehydes, ketones, carboxylic acids and esters. Hydrogen bonding. Acidic nature. Reactions of alcohols. Dihydric and Trihydric alcohols-Nomenclature, methods of formation, chemical reactions of vicinal glycols and glycerol.

Preparation of phenols, physical properties and acidic character. Comparative acidic strengths of alcohols and phenols, resonance stabilization of phenoxide ion. Reactions of phenols-electrophilic aromatic substitution, acylation and carboxylation. Mechanisms of Fries rearrangement, Claisen rearrangement, Gatterman synthesis, and Reimer-Tiemann reaction.

UNIT-II**(8 Hrs.)****Aldehydes and Ketones I**

Nomenclature and structure of the carbonyl group. Synthesis of aldehydes and ketones with particular reference to the synthesis of aldehydes from acid chlorides, synthesis of aldehydes and ketones using 1,3-dithianes, synthesis of ketones from nitriles and from carboxylic acids. Physical properties.

UNIT-III**(7 Hrs.)****Aldehydes and Ketones-II**

Mechanism of nucleophilic additions to carbonyl group with particular emphasis on benzoin, aldol, Perkin and Knoevenagel condensations. Condensation with ammonia and its derivatives. Wittig reaction, Mannich reaction.

Use of acetals as protecting group. Oxidation of aldehydes, Baeyer-Villiger oxidation of ketones, Cannizzaro reaction, MPV, Clemmensen, Wolff-Kishner, LiAlH_4 and NaBH_4 reductions.

UNIT-IV**Carboxylic Acids:****(7 Hrs.)**

Nomenclature, structure and bonding, physical properties, acidity of carboxylic acids, effects of substitutions on acid strength. Preparations of carboxylic acids. Reactions of carboxylic acids. Hell-Volhard-Zelinsky reaction. Synthesis of acid chlorides, esters and amides, Reduction of carboxylic acids. Mechanism of decarboxylation. Methods of formation and chemical reactions of halo acids. Hydroxyl acids: Malic, tartaric and citric acids (structural features only).

Methods of formation and chemical reactions of unsaturated monocarboxylic acids.

Dicarboxylic acids: Methods of formation and effects of heat and hydrating agents.

Instructions for paper setters and candidates:

- i. Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering whole syllabi.*
- ii. The students are required to attempt **FIVE** questions in all, **ONE** question from each unit and the Compulsory question.*
- iii. Compulsory question carries six marks and remaining all questions carry four marks each.*

Books suggested

1. Morrison, R.T., Boyd, R.N., Organic Chemistry; 6th edition, Pubs: Prentice-Hall, 1992.
2. Wade Jr., L.G., Singh, M.S., Organic Chemistry; 6th edition, Pubs: Pearson Education, 2008.
3. Mukherji, S.M., Singh, S.P., Kapoor, R.P., Organic Chemistry; Pubs: Wiley Eastern Limited, 1985, Vol. I, II, III.
4. Solomons, T.W., Fryhle, C.B., Organic Chemistry; 9th edition, Pubs: Wiley India, 2007.
5. Carey, F.A., Organic Chemistry; 4th edition, Pubs: McGraw-Hill, 2000.
6. Streitwieser, A., Clayton, Jr., Heathcock, H., Introduction to Organic Chemistry; 3rd edition, Pubs: Macmillan Publishing Company, 1989.

Paper-XI: PHYSICAL CHEMISTRY-A

Time : 3 Hrs.
Max. Marks:22+3
60 Hrs. (2 Hrs./Week)
3 Periods/Week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester system) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I**(8 Hrs.)****Liquid State:**

Intermolecular forces, structure of liquids (a qualitative description).

Structural differences between solids, liquids and gases.

Liquid Crystals :Difference between liquid crystal, solid and liquid. Classification, structure of nematic and cholestric phases. Thermography and seven segment cell.

UNIT-II**(7 Hrs.)****Chemical Equilibrium:**

Equilibrium constant and free energy. Thermodynamic derivation of law of mass of mass action. Le - Chatelier's principle.

Reaction isotherm and Reaction isochore-Clapeyron equation and Clausius –Clapeyron equation, applications.

UNIT-III**(8 Hrs.)****Thermodynamics-II:**

Second Law of Thermodynamics: Need for the law, different statements of the law, Carnot cycle and its efficiency, Carnot theorem. Thermodynamic scale of temperature.

Concept of Entropy: Entropy as a state function, entropy as a function of V & T, entropy as a function of P & T, entropy change in physical change, Clausius inequality, entropy as a criteria of spontaneity and equilibrium. Entropy change in ideal gases and mixing of gases.

UNIT-IV**(7 Hrs.)****Thermodynamics-III:**

Third Law of Thermodynamics: Nernst heat theorem, statement and concept of residual entropy, evaluation of absolute entropy from heat capacity data. Gibbs and Helmholtz functions; Gibbs function (G) and Helmholtz functions (A) as thermodynamic quantities, A & G as criteria for thermodynamic equilibrium and spontaneity, their advantage over entropy change. Variation of G and A with P, V and T.

Instructions for paper setters and candidates:

- i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.*
- ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.*
- iii. Compulsory question carries six marks and remaining all questions carry four marks each.*

Books suggested

1. Atkins, P., Paula, J.de, Atkins Physical Chemistry; 8th edition, Pubs: Oxford University Press, 2008.
2. Puri, B.R., Sharma, L.R., Pathania, M.S., Principles of Physical Chemistry; 43rd edition, Pubs: Vishal Publishing Co., 2008.
3. Barrow, G.M., Physical Chemistry; 6th edition, Pubs: McGraw Hill Companies Inc, 1996.
4. Rao, C.N.R., University General Chemistry; Pubs: Macmillan of India, 1985.
5. Berry, R.S., Rice, S.A., Ross, J., Physical Chemistry; 2nd edition, Pubs: Oxford University Press, 2000.
6. Albert, R.A., Silbey, R.J., Physical Chemistry; 1st edition, Pubs: John Wiley & Sons Inc., 1992.
7. Dogra, S.K., Dogra, S., Physical Chemistry Through Problems, Pubs: Wiley Eastern Limited, 1991.
8. Levine, I.N., Physical Chemistry; 5th edition, Pubs: Tata McGraw Hill Publishing Co. Ltd, 2002.
9. Moore, W. J., Basic Physical Chemistry; Pubs: Prentice Hall of India Pvt. Ltd, 1983.
10. Metz, C.R., Theory and problems of Physical Chemistry; Schaum's outline series, 2nd edition, Pubs: McGraw-Hall Book Company, 1989.

Paper-XII: LABORATORY PRACTICALS**Max. Marks:22+3
6 Periods/week****Inorganic Chemistry**

Quantitative Analysis

Volumetric Analysis:

- Estimation of calcium content in chalk as calcium oxalate by permanganometry.
- Estimation of hardness of water by EDTA.
- Estimation of ferrous and ferric by dichromate method.
- Estimation of copper using sodium thiosulphate

Gravimetric Analysis

Analysis of Cu as CuSCN and Ni as Ni (dimethylglyoxime)₂.**Physical Chemistry**

Thermochemistry:

- To determine the solubility of benzoic acid at different temperatures and to determine ΔH of the dissolution process.
- To determine the enthalpy of neutralization of a weak acid/weak base versus strong base/strong acid and determine the enthalpy of ionization of the weak acid/weak base. pH of a Buffer solution, Determination of ionization constant of a weak acid.

General Instruction to the Examiners:

Note: Practical examination will be of four hours duration & shall consist of the following questions:

| | |
|--|------------|
| Q.No. I. Inorganic Chemistry | : 09 marks |
| Q.No. II. Physical Chemistry | : 06 marks |
| Q.No. III. Viva-Voce | : 04 marks |
| Ask four questions (2 marks each) related to chemistry practicals. | |
| Q.No. IV. Note Book | : 03 marks |

Books Suggested (Laboratory Courses)

- Furniss, B.S., Hannaford, A.J., Rogers, V., Smith, P.W.G., Tatchell, A.R., Vogel's Text Book of Practical Organic Chemistry; 4th edition, Pubs: Longman group, 1978.
 - Bansal, R.K., Laboratory Manual of Organic Chemistry; 3rd edition, Pubs:Wiley Eastern Limited, New Delhi, 1994.
 - Furniss, B.S., Hannaford, A.J., Smith, P.W.G., Tatchell, A.R., Vogel's Textbook of Practical Organic Chemistry; 5th edition, Pubs: Dorling Kindersley (India) Pvt. Ltd. Delhi., 2006.
 - Khosla, B.D., Garg, V.C., Gulati, A., Senior Practical Physical Chemistry; 11th edition, Pubs: R. Chand & Co., New Delhi, 2002.
 - Das, R.C., Behra, B., Experimental Physical Chemistry; Pubs: Tata McGraw Hill Publishing Co. Ltd., 1983.
 - Levitt, B.P., Findlays Practical Physical Chemistry; 8th edition, Pubs: Longman Group Ltd., London & New York, 1978.
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CHEMISTRY
SEMESTER-IV

| <i>Paper</i> | <i>Course</i> | <i>Teaching Hrs.</i> | | <i>Max. Marks</i> |
|--------------|-----------------------|----------------------|--------------------|--------------------------|
| XIII | Inorganic Chemistry-B | 30 | 3 periods per week | 22+3 internal assessment |
| XIV | Organic Chemistry-B | 30 | 3 periods per week | 22+3 internal assessment |
| XV | Physical Chemistry-B | 30 | 3 periods per week | 22+3 internal assessment |
| XVI | Laboratory Practicals | | 6 periods per week | 22+3 internal assessment |
| Total | | | 15 periods/week | 100 |

Paper-XIII: INORGANIC CHEMISTRY-B

Time : 3 Hrs

Max. Marks : 22+3

60 Hrs. (2 Hrs/Week)

3 Periods/Week

OBJECTIVE OF THE COURSE

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester system) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I

(8 Hrs.)

Chemistry of Lanthanide Elements:

Electronic structure, oxidation states and ionic radii and lanthanide contraction, complex formation, occurrence and isolation, lanthanide compounds.

Chemistry of Actinides:

General features and chemistry of actinides, chemistry of separation of Np, Pu and Am from U, similarities between the later actinides and the later lanthanides.

UNIT-II

(7 Hrs.)

Acids and Bases:

Arrhenius, Bronsted-Lowry, the Lux-Flood, solvent system and Lewis concepts of acids and bases.

UNIT-III

(8 Hrs.)

Oxidation and Reduction:

Use of redox potential data – analysis of redox cycle, redox stability in water – Frost, Latimer and Pourbaix diagrams. Principles involved in the extraction of the elements.

UNIT-IV

(7 Hrs.)

Non-aqueous Solvents:

Physical properties of a solvent, types of solvents and their general characteristics, reactions in non-aqueous solvents with reference to liquid NH_3 and liquid SO_2 .

Instructions for paper setters and candidates:

- i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.*
- ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.*
- iii. Compulsory question carries six marks and remaining all questions carry four marks each.*

Books Suggested

1. Cotton, F.A., Wilkinson, G., Gaus, P.L., Basic Inorganic Chemistry; 3rd edition, Pubs: John Wiley Sons. 1995.
2. Lee, J.D., Concise Inorganic Chemistry; 4th edition, Pubs: Chapman Hall Ltd., 1991.
3. Shriver, D.E., Alkins, P.W., Langford, C.H., Inorganic Chemistry; 4th edition, Oxford Publisher: Oxford University Press, 2006.
4. Douglas, B. McDamiel, D., Alexander, J., Concepts and Models of Inorganic Chemistry; 3rd edition, Pubs: John Wiley and Sons Inc., 1994.
5. Porterfield, W.W., Wesley, A., Inorganic Chemistry; Pubs: Addison-Wesley Publishing Company, 1984.
6. Miessler, G.L., Larr, D.A., Inorganic Chemistry; 3rd edition, Pubs: Pearson Education Inc., 2004.
7. Jolly, W.L., Modern Inorganic Chemistry; 2nd edition, Pubs: McGraw-Hill Publishing Company Limited, 1991.
8. Purcell, K.F., Kotz, J.C., Inorganic Chemistry; Pubs: W.B. Saunders Company, 1977.
9. Puri, B.R., Sharma, L.R., Kalia, K.C., Principles of Inorganic Chemistry; 30th edition, Pubs: Milestones Publisher, 2006-07.

Paper-XIV: ORGANIC CHEMISTRY-B**Time : 3 Hrs**
Max. Marks : 22+3
60 Hrs. (2 Hrs/Week)
3 Periods/Week**OBJECTIVE OF THE COURSE**

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester system) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I (8 Hrs.)**Carboxylic Acid Derivatives:**

Structure and nomenclature of acid chlorides, esters, amides and acid anhydrides. Relative stability & reactivity of acyl derivatives. Physical properties, interconversion of acid derivatives by nucleophilic acyl substitution.

Preparation of carboxylic acid derivatives, chemical reactions. Mechanisms of esterification and hydrolysis (acidic and basic).

UNIT-II (8 Hrs.)**Ethers , Epoxides Fats, Oils and Detergents:**

Nomenclature of ether and methods of their formation, physical properties. Chemical reaction-cleavage and autoxidation, Ziesel's method.

Synthesis of epoxides. Acid and base-catalyzed ring opening of epoxides, orientation of epoxide ring opening, reactions of Grignard and organolithium reagents with epoxides.

Natural fats, edible and industrial oils of vegetable origin, common fatty acids, glycerides, hydrogenation of unsaturated oils. Saponification value, iodine value, acid value. Soaps, synthetic detergents; alkyl and aryl sulphonates.

UNIT-III (7 Hrs.)**Organic Compounds of Nitrogen:**

Preparation of nitroalkanes and nitroarenes. Chemical reactions of nitroalkanes. Mechanisms of nucleophilic substitution in nitroarenes and their reductions in acidic, neutral and alkaline media. Picric acid.

Structure and nomenclature of amines, physical properties. Stereochemistry of amines, Separation of a mixture of primary, secondary and tertiary amines. Structural features effecting basicity of amines. Amine salts as phase-transfer catalysis. Preparation of alkyl and aryl amines (reduction of nitro compounds, nitriles), reductive amination of aldehydic and ketonic compounds. Gabriel-phthalimide reaction, Hofmann bromamide reaction.

UNIT-IV**Heterocyclic Compounds:****(7 Hrs.)**

Introduction: Molecular Orbital picture and aromatic character of pyrrole, furan, thiophene, pyridine. Methods of synthesis and chemical reactions with particular emphasis on the mechanism of electrophilic substitution. Mechanism of nucleophilic substitution reactions in pyridine derivatives. Comparison of basicity of pyridine, piperidine and pyrrole.

Introduction to condensed-five and six-membered heterocycles. Preparation and reactions of indole, quinoline and isoquinoline with special reference to Fisher indole synthesis. Skraup synthesis and Bischler-Napieralski synthesis. Mechanism of electrophilic substitution reactions of indole, quinoline and isoquinoline.

Instructions for paper setters and candidates:

- i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.*
- ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.*
- iii. Compulsory question carries six marks and remaining all questions carry four marks each.*

Books suggested

1. Morrison, R.T., Boyd, R.N., Organic Chemistry; 6th edition, Pubs: Prentice-Hall, 1992.
2. Wade Jr., L.G., Singh, M.S., Organic Chemistry; 6th edition, Pubs: Pearson Education, 2008.
3. Mukherji, S.M., Singh, S.P., Kapoor, R.P., Organic Chemistry; Pubs: Wiley Eastern Limited, 1985, Vol. I, II, III.
4. Solomons, T.W., Fryhle, C.B., Organic Chemistry; 9th edition, Pubs: Wiley India, 2007.
5. Carey, F.A., Organic Chemistry; 4th edition, Pubs: McGraw-Hill, 2000.
6. Streitwieser, A., Clayton, Jr., Heathcock, H., Introduction to Organic Chemistry; 3rd edition, Pubs: Macmillan Publishing Company, 1989.

Paper-XV: PHYSICAL CHEMISTRY-B**Time : 3 Hrs****Max. Marks : 22+3****60 Hrs. (2 Hrs/Week)****3 Periods/Week****OBJECTIVE OF THE COURSE**

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester system) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

UNIT-I**(8 Hrs.)****Phase equilibrium:**

Statement and meaning of the terms – phase, component and degree of freedom, derivation of Gibbs phase rule, phase equilibria of one component system—water, CO₂ and S systems.

Phase equilibria of two component system –solid –liquid equilibria, simple eutectic – Bi-Cd system, desilverisation of lead.

Solid solutions—compound formation with congruent melting point (Mg-Zn) and incongruent melting point, (NaCl-H₂O) system. Freezing mixtures, acetone-dry ice.

Partially Miscible Liquids –Phenol-water, trimethylamine – water, nicotine –water systems.

Nernst distribution law-thermodynamic derivation, applications.

UNIT-II**(7 Hrs.)****Electrochemistry –I:**

Electrical transport –Conduction in metals and in electrolyte solutions, specific conductance and equivalent conductance, measurement of equivalent conductance, variation of equivalent and specific conductance with dilution.

Migration of ions and Kohlrausch Law, Arrhenius theory of electrolyte dissociation and its limitations, weak and strong electrolytes, Ostwald's dilution law, its uses and limitations. Debye-Huckel-Onsager's equation for strong electrolytes (elementary treatment only). Transport number, definition and determination by Hittorf method and moving boundary method.

UNIT-III**(8 Hrs.)****Electrochemistry-II:**

Types of reversible electrodes – gas metal – ion, metal –insoluble salt – anion and redox electrodes. Electrode reactions, Nernst equation, derivation of cell E.M.F. and single electrode potential, standard hydrogen electrode – reference electrodes – standard electrode potential, sign conventions, electrochemical series and its significance.

UNIT-IV**(7 Hrs.)**

Electrolytic and Galvanic cells – reversible and irreversible cells, conventional representation of electrochemical cells.

E.M.F. of a cell and its measurements. Computation of cell E.M.F. Calculation of thermodynamic quantities of cell reactions (ΔG , ΔH and K), Polarization, over potential and hydrogen overvoltage.

Concentration cell with and without transport, liquid junction potential, application of concentration cells, valency of ions, solubility product and activity coefficient, potentiometric titrations.

Instructions for paper setters and candidates:

- i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.*
- ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.*
- iii. Compulsory question carries six marks and remaining all questions carry four marks each..*

Books suggested

1. Atkins, P., Paula, J.de, Atkins Physical Chemistry; 8th edition, Pubs: Oxford University Press, 2008.
2. Puri, B.R., Sharma, L.R., Pathania, M.S., Principles of Physical Chemistry; 43rd edition, Pubs: Vishal Publishing Co., 2008.
3. Barrow, G.M., Physical Chemistry; 6th edition, Pubs: McGraw Hill Companies Inc, 1996.
4. Rao, C.N.R., University General Chemistry; Pubs: Macmillan of India, 1985.
5. Berry, R.S., Rice, S.A., Ross, J., Physical Chemistry; 2nd edition, Pubs: Oxford University Press, 2000.
6. Albert, R.A., Silbey, R.J., Physical Chemistry; 1st edition, Pubs: John Wiley & Sons Inc., 1992.
7. Dogra, S.K., Dogra, S., Physical Chemistry Through Problems, Pubs: Wiley Eastern Limited, 1991.
8. Levine, I.N., Physical Chemistry; 5th edition, Pubs: Tata McGraw Hill Publishing Co. Ltd, 2002.
9. Moore, W. J., Basic Physical Chemistry; Pubs: Prentice Hall of India Pvt. Ltd, 1983.
10. Metz, C.R., Theory and problems of Physical Chemistry; Schaum's outline series, 2nd edition, Pubs: McGraw-Hall Book Company, 1989.

Paper-XVI LABORATORY PRACTICALS**Max. Marks: 22+3****6 Periods/week****Organic Chemistry**

Laboratory Techniques:

- a) Determination of R_f values and identification of organic compounds. Separation of isometric mixture of Ortho and parnitroaniline using hexane and ethyl acetate (8.5 : 1.5) by thin layer chromatography.
- b) Extraction of caffeine from tea leaves.

Qualitative Analysis:

Detection of elements (N, S and halogens) and functional groups (phenolic, carboxylic, carbonyl, esters, carbohydrates, amines, amides, nitro and anilide), in simple organic compounds.

General Instruction to the Examiners:

Note: Practical examination will be of four hours duration & shall consist of the following questions:

- | | |
|--|------------|
| Q.No. I. Organic Chemistry: (analysis of organic compound) | : 09 marks |
| Q.No. II. TLC experiment, Extraction of caffeine) | : 06 marks |
| Q.No. III. Viva-Voce | : 04 marks |
| Ask four questions (2 marks each) related to chemistry practicals. | |
| Q.No. IV. Note Book | : 03 marks |

Books Suggested (Laboratory Courses)

1. Furniss, B.S., Hannaford, A.J., Rogers, V., Smith, P.W.G., Tatchell, A.R., Vogel's Text Book of Practical Organic Chemistry; 4th edition, Pubs: Longman group, 1978.
2. Bansal, R.K., Laboratory Manual of Organic Chemistry; 3rd edition, Pubs : Wiley Eastern Limited, New Delhi, 1994.
3. Furniss, B.S., Hannaford, A.J., Smith, P.W.G., Tatchell, A.R., Vogel's Textbook of Practical Organic Chemistry; 5th edition, Pubs: Dorling Kindersley (India) Pvt. Ltd. Delhi., 2006.
4. Khosla, B.D., Garg, V.C., Gulati, A., Senior Practical Physical Chemistry; 11th edition, Pubs: R.Chand& Co., New Delhi, 2002.
5. Das, R.C., Behra, B., Experimental Physical Chemistry; Pubs: Tata McGraw Hill Publishing Co. Ltd., 1983.
6. Levitt, B.P., Findlays Practical Physical Chemistry; 8th edition, Pubs: Longman Group Ltd., London & New York, 1978.

BOTANY**B.Sc. (GENERAL) SECOND YEAR (3rd and 4th Semester) EXAMINATION, 2023-2024**

| Third Semester | | Time | Theory | Int Assess. | Max Marks |
|--|--|---------------|---------------|--------------------|------------------|
| Theory Paper-A: | Diversity of Seed Plants and their Systematics-I | 3 hrs. | 36 | 04 | 40 |
| Theory Paper-B: | Structure, Development and Reproduction in Flowering Plants-I | 3 hrs | 36 | 04 | 40 |
| One practical pertaining to entire syllabus included in both theory papers | | 3 hrs. | 18 | 02 | 20 |
| Fourth Semester | | | | | |
| Theory Paper-A: | Diversity of Seed Plants and their Systematics-II | 3 hrs. | 36 | 04 | 40 |
| Theory Paper-B: | Structure, Development and Reproduction in Flowering Plants-II | 3 hrs | 36 | 04 | 40 |
| One practical pertaining to entire syllabus included in both theory papers | | 3 hrs. | 18 | 02 | 20 |
| Total | | | | | 200 |

Note:

- The number of teaching hours for theory and practical per semester shall be 60 hrs. and 100 hrs. respectively.
- There will be a two theory papers (A & B) in each semester. Each paper will consist of 9 questions. Question No. 1 will be compulsory and will consist of 8 parts (one mark each) comprising 4 MCQ and the rest 4 parts will be of fill-in the blanks covering the entire syllabus in both the theory papers A & B. The remaining 8 questions in papers A & B shall include two questions from each unit. Candidates shall be required to attempt one question from each Unit. Question No. 1 will carry 8 marks and the rest of 8 questions will be of 7 marks each.

BOTANY

B.Sc.(General) Third Semester (Examination December, 2023)

THEORY PAPER- A: DIVERSITY OF SEED PLANTS AND THEIR SYSTEMATICS- I

Objective: This paper deals with highly advance and evolved group of plants with naked seeds i.e. Gymnosperms. The course work of this paper gives a fair idea about the general features, economic importance and study of fossil as well as living gymnosperms.

Teaching Methodology: Teaching methodology includes series of lectures making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc. Students will be taken for field excursions to various hill stations/forests to familiarize them with the flora of the area covering various plant forms.

UNIT-I

General characteristics and economic importance of gymnosperms; differences between gymnosperms and angiosperms; differences between manoxylic and pycnoxylic wood.

UNIT-II

Fossil gymnosperms : Geological time Scale, Brief account of fossils, their formation and types (excluding details).

Lyginopteris: Introduction, external structure of stem; internal structure of primary stem, root and leaf; reproduction.

Williamsonia: Introduction, external morphology; internal structure; reproductive organs, male and female flowers.

UNIT-III

Structure, reproduction (male and female strobilus; structure of ovule; development of male and female gametophytes; pollination, fertilization, development of embryo and structure of seed) and life cycle of Cycas.

UNIT-IV

Structure, reproduction (male and female strobilus; structure of ovule; development of male and female gametophytes; pollination, fertilization, development of embryo and structure of seed) and life cycle of:

- a) Pinus
- b) Ephedra

Suggested Reading:

1. Bhatnagar, S.P. and Moitra, A. Gymnosperms, New Age International Limited, New Delhi, 1996.
2. Chopra, G.L. Text book of Gymnosperms, S. Nagin, Delhi, 1976.
3. Dhand, N. Systematics of Spermatophyta. Trueman Publications, Jalandhar, 2012
4. Pandey, B.P. College Botany, Vol. II. S. Chand & Company Ltd., New Delhi, 1994.
5. Singh, V., Pande, P.C. and Jain, D.K. A Text Book of Botany: Diversity and Systematics of Seed Plants, Rastogi Publications, Meerut, 2013.
6. Sporne, K.R. The Morphology of Gymnosperms, Hutchinson & Co (Publishers) Ltd., London, 1965.
7. Srivastava, H.N. Diversity of Seed Plants and their Systematics, Vol. III. Pradeep Publications, Jalandhar, 2014.

PAPER –B: STRUCTURE, DEVELOPMENT AND REPRODUCTION IN FLOWERING PLANTS-I

Objective: This paper deals with the basic body plan and diversity in flowering plant forms. The course work of this paper covers vegetative and reproductive morphology of these plants and will familiarize the students with plants bearing the enclosed seeds.

Teaching Methodology: Teaching methodology includes series of lectures making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

UNIT-I

The basic body plan of a flowering plant.

Diversity in plant form in annuals, biennials and perennials.

Root system: Tap root and adventitious root system and their various types; structural and anatomical modifications for storage, respiration and reproduction.

UNIT-II

Stem : Modifications of aerial and underground stem.

Leaf: Venation, phyllotaxy, simple and compound leaves, functions and modifications; internal structure (dicot and monocot leaves).

UNIT-III

Flower : As a modified shoot, functions; structure of anther and pistil; structure and development of male and female gametophytes.

UNIT-IV

Double fertilization and its significance; different types of ovules and embryo-sacs.

Suggested Readings :

1. Bhojwani, S.S. and Bhatnagar, S.P. The Embryology of Angiosperms, 5th edition. Vikas Publishing House Pvt. Ltd., Delhi, 2009.
2. Goyal J.P. and Saini, A. Angiosperms: Structure Development and Reproduction, Trueman Book Co. Jalandhar & New Delhi, 2006.
3. Pandey, S.N., Chadha, A. Plant Anatomy and Embryology, Vikas Publishing House Pvt. Ltd., Delhi, 1996.
4. Singh, V. Plant Anatomy and Embryology of Angiosperms, Global Media Publications, Delhi 2010.
5. Singh, V., Pande, P.C. and Jain, D.K. A Text Book of Botany: Structure Development and Reproduction in Angiosperms, Rastogi Publications, Meerut, 2013.
6. Srivastava, H.N. Structure, Development and Reproduction in Flowering Plants, Vol. IV. Pradeep Publications, Jalandhar, 2014.

Suggested laboratory exercises:

1. *Cycas*:
 - i) Habit, armour of leaf bases on the stem, young and old foliage leaves, scale leaves, male cone, megasporophyll, seed.
 - ii) Preparation of permanent stained slides of *Cycas* (T.S. leaflet, rachis and coralloid root).
2. *Pinus*:
 - i) Dwarf shoot; Male cone; Female cones (first year, second year and third year); Seed.
 - ii) Preparation of permanent slide of T.S. needle and pollen grains.
 - iii) Study through permanent slides :
 - a) L.S. male cone
 - b) L.S. female cone
 - c) L.S. ovule
3. *Ephedra*:
 - i) Habit and structure of male and female cones
 - ii) Preparation of permanent slide of T.S. stem (young).
 - iii) Study through permanent slides:
 - a) L.S. female cone
 - b) L.S. male cone

4. Modifications of **root, stem and leaf**.
5. Study through preparation of permanent slides :
 - i) V.S. dicot leaf
 - ii) V.S. monocot leaf

Guidelines for Botany Practical Examination:

| | |
|-------------------------|----------------|
| Max. Marks: | 20 |
| Practical: | 18 |
| Int. Assessment: | 2 |
| Time: | 3 hours |

- | | | |
|----|--|-------|
| 1. | Cut T.S. of specimen A. Make its permanent stained slide. Identify, draw its well labeled diagram and show it to the examiner. | 6 |
| 2. | Identify, write illustrated morphological note on specimen B (from gymnosperms) and C from root/stem/leaf modifications. | 4 |
| 3. | Identify slides D and E giving at least two reasons. | 4 |
| 4. | Practical note book and Viva-voce | 2+2=4 |

BOTANY**B.Sc. (GENERAL) Fourth Semester (Examination May, 2024)****PAPER-A: DIVERSITY OF SEED PLANTS AND THEIR SYSTEMATICS-II**

Objectives: This paper deals with highly advance and evolved group of plants i.e. Angiosperms. The study of gradual transition from seedless plants to seed plants would make students familiar with origin of structural and functional complexity in plant kingdom. The systematics part of this paper is in fact backbone of the study of Botany. Without having knowledge of taxonomy and species concept, no further research work can be pursued. The identification, nomenclature and classification of the concerned plants make the first step of any research work in Botany.

Teaching Methodology: Teaching methodology includes series of lectures making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc. Students will be taken for field excursions to various hill stations/forests to familiarize them with the flora of the area covering various families of flowering plants.

UNIT-I

General characters of Angiosperms. Plant nomenclature and International Code of Botanical Nomenclature : Common names and scientific names, principles and rules; taxonomic ranks; type concept (Holotype, Isotype, Syntype, Paratype, Lectotype, Neotype and Topotype); principle of priority, aims and objectives of plant taxonomy.

A brief account of Bentham and Hooker's System of classification, its merits and demerits.

UNIT-II

Terminology pertaining to floral description.

General account and diagnostic features of the following families (excluding economic importance) :

| | | |
|---------------------|---|---|
| Liliaceae | : | <i>Asphodelus/Asparagus</i> |
| Gramineae (Poaceae) | : | <i>Triticum</i> |
| Ranunculaceae | : | <i>Ranunculus</i> and <i>Delphinium</i> |
| Brassicaceae | : | <i>Brassica</i> |

UNIT-III

General account and diagnostic features of the following families (excluding economic importance):

| | | |
|-------------------------|---|---|
| Rutaceae | : | <i>Citrus</i> and <i>Murraya</i> |
| Malvaceae | : | <i>Hibiscus</i> |
| Fabaceae | : | <i>Lathyrus</i> , <i>Cassia</i> and <i>Acacia</i> |
| Umbelliferae (Apiaceae) | : | <i>Coriandrum</i> |

UNIT-IV

General account and diagnostic features of the following families (excluding economic importance) :

| | | |
|-------------------------|---|-----------------------------------|
| Compositae (Asteraceae) | : | <i>Helianthus/Ageratum</i> |
| Asclepiadaceae | : | <i>Calotropis</i> |
| Solanaceae | : | <i>Solanum</i> and <i>Petunia</i> |
| Labiatae (Lamiaceae) | : | <i>Ocimum</i> |
| Chenopodiaceae | : | <i>Chenopodium</i> |

Suggested Readings:

1. Chopra, G.L. Angiosperms: Systematic and Life Cycle, Pradeep Publications, Jalandhar, 1987.
2. Dhand, N. Systematics of Spermatophyta, Trueman Publications, Jalandhar, 2012.
3. Maheshwari, J.K. Flora of Delhi, CSIR, New Delhi, 1963.
4. Singh, G. Plant Systematics: Theory and Practice, Oxford and IBH Pvt. Ltd., New Delhi, 1999.
5. Singh, V., Pande, P.C. and Jain, D.K. A Text Book of Botany: Diversity and Systematics of Seed Plants, Rastogi Publications, Meerut, 2013.
6. Srivastava, H.N. Diversity of Seed Plants and their Systematics, Vol. III, Pradeep Publications, Jalandhar, 2006.
7. Vasishta, P.C. Taxonomy of Angiosperms. R. Chand & Co., New Delhi, 1997.

PAPER-B: STRUCTURE, DEVELOPMENT AND REPRODUCTION IN FLOWERING PLANTS-II

Objectives: This paper deals with structure development and reproduction in flowering plants – the most fascinating group of plants on earth. The course material of this paper deals with internal structure of various plant parts, their growth patterns and abnormalities in structural development. The vast range of variation found in this group of plants provides a platform to students for acquiring basic knowledge of flowering plants which makes a foundation of applied branches like horticulture, floriculture, olericulture and arboriculture.

Teaching Methodology: Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

UNIT-I

Tissue systems: Meristematic, shoot apex, root apex; simple and complex permanent tissues, special tissues; internal structure of primary dicot stem & root (*Helianthus*); secondary growth in dicot stem & root (*Helianthus*); internal structure of monocot stem & root (*Zea mays*); differences between dicot stem and monocot stem; differences between dicot root and monocot root.

UNIT-II

Anomalous stem structure in *Boerhaavia*, *Nyctanthes*, *Mirabilis* and *Dracaena*.

Various methods of vegetative propagation; micropropagation, basic technique and its importance.

UNIT-III

Types of pollination, advantages and disadvantages of self and cross-pollination; contrivances for self and cross-pollination, various agencies to bring about cross-pollination, characters of flowers pollinated by different agencies.

UNIT-IV

Seed formation: Development of endosperm and embryo. Fruit development, maturation and parthenocarpy. Significance of seed: Suspended animation; ecological adaptation and dispersal strategies.

Suggested Readings:

1. Esau, K. Anatomy of Seed Plants, 2nd edition, John Wiley & Sons, New York, 1977.
2. Fahh, A. Plant Anatomy, 2nd Edition, Pergamon Press, Oxford, 1974.
3. Goyal J.P. and Saini, A. Angiosperms: Structure Development and Reproduction, Trueman Book Co. Jalandhar & New Delhi, 2006.
4. Singh, V. Pande, P.C. and Jain, D.K. A Text book of Botany: Structure Development and Reproduction in Angiosperms, Rastogi Publications, Meerut, 2013.
5. Srivastava, H.N.. Structure, Development and Reproduction in Flowering Plants, Vol. IV. Pradeep Publications, Jalandhar, 2014.
6. Vasishta, P.C. A Text book of Plant Anatomy, S. Nagin & Co., Delhi, 1979.

Suggested Laboratory Exercises:

1. Preparation of permanent stained slides to show:
 - a. Anomalous internal structure of stem in *Boerhaavia*, *Nyctanthes*, *Mirabilis* and *Dracaena*.
 - b. T.S. dicot stem & root (*Helianthus*)
 - c. T.S. monocot stem & root (*Zea mays*)
 - d. Types of Placentation

2. Description of flowers in technical terms, drawing F.D., V.S., T.S. ovary, writing F.F. and reference to their respective families of the genera mentioned in different families in theory syllabus.

Guidelines for Botany Practical Examination

| | |
|-------------|-----------|
| Max. Marks | : 20 |
| Practical | : 18 |
| Int. Assess | : 02 |
| Time | : 3 hours |

1. Cut T.S. of specimen A. Make its permanent stained slide. Identify and draw its well labeled diagram and show it to the examiner. 5
2. Describe specimen B or C in technical terms and proper sequence. Draw F.D. and V.S. of flower B or C. Cut T.S. of ovary and V.S. of flower and show them to the examiner. Write F.F. also. Refer specimen B or C to its respective family. 5
3. Identify slides D and E giving at least one reason. 2
4. Practical note book 2
5. Plant Album 2
6. *Viva-voce* 2

ZOOLOGY**B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-III**

| | | | |
|------------------|--|------------------|----------------|
| Paper I | : Biodiversity (Chordates) & Evolution-I | 40 | (36+ 4) marks |
| Paper II | : Biochemistry & Physiology-I | 40 | (36 + 4) marks |
| Practical | (Covering the entire syllabus) of 4 hours duration | 20 | (18+ 2) marks |
| Total : | | 100 marks | |

Note : The number of hours for Theory and Practical per week shall be 6 hours and 4 hours respectively.

OBJECTIVES OF THE COURSE

The syllabus pertaining to B.Sc. (General) Part-II, in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges.

The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance may be given to skill oriented components.

The course contents are also given due stress for excursion/field trips to Zoological Parks, Sea-shores, Hill Stations, Museums, Fossil Parks and Apiary/godowns for better academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshop/seminars from time to time for updating the teachers.

PAPER-I : BIODIVERSITY (CHORDATES) & EVOLUTION-I (ZOO 301)

| | |
|---------------------|------------|
| Max. Marks | : 40 |
| Theory Exam. | : 36 Marks |
| Internal Assessment | : 4 Marks |
| Time | : 3 Hours |

Note : Nine questions are to be set. Question No.1 is compulsory consisting of short answer type questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, Five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.

UNIT-I

Chordates – Origin, Parental care and migration.

Protochordates –Urochordata-Type Study – *Herdmania* (except development),

Cephalochordata- Type Study – *Amphioxus* (except development)

Classification of the animals up to orders relating to the following groups along with brief ecological notes of the following :

Protochordates : *Herdmania, Molgula, Pyrosoma, Doliolum, Salpa, Oikopleura & Branchiostoma* (excluding development).

UNIT-II

Cyclostomata – External Characters of *Petromyzon* & affinities of Cyclostomata

Pisces- Scales & fins, Osmoregulation, Type study-*Labeo*.

Cyclostomata : *Myxine, Petromyzon & Ammocoetes* larva.

Chondrichthyes : *Zygaena*(Hammer headed shark), *Pristis* (saw fish), *Narcine* (electric ray), *Trygon, Rhinobatus* and *Chimaera*(rabbit fish).

Actinopterygii : *Polypterus, Acipenser, Lepisosteus, Muraena, Mystus, Catla, Hippocampus, Syngnathus, Exocoetus, Anabas, Diodon, Tetradon, Echeineis* and *Solea*.

Dipneusti (Dipnoi) : *Protopterus* (lung fish)

UNIT-III

Amphibia – Type study-*Hoplobatrachus Tigerinus*.

Classification of the animals up to orders relating to the following groups along with brief ecological notes of the following :

Amphibia : *Uraeotyphlus, Necturus, Amphiuma, Amblystoma* and its Axolotl Larva, *Triton, Salamandra, Hyla, Rhacophorus*.

UNIT-IV

Concept and evidences of organic evolution.

Theories of organic evolution.

Origin of life.

Suggested Readings

1. Parker, T.J. and Haswell, W.A : Text Book of Zoology, Vol. II (Vertebrates), ELBS and Macmillan Press Ltd., 1981.
2. Dobzhansky, T., Ayala, F.J., Stebbins, G.L. and Valentine, J.W. : Evolution, WH Freeman, 1952.
3. Colbert, E.H. : Evolution of Vertebrates, IInd edition, Wiley Eastern Ltd., 1989.

4. Dhami, P.S. and Dhami, J.K. : Chordate Zoology, R. Chand & Co., New Delhi, 2014.
5. Bhamrah, H.S. and Juneka, K. : Cytogenetics & Evolution, Anmol Publication Pvt. Ltd., 1993.
6. Rastogi, V.B. : Organic Evolution, 13th edition, 2017

PAPER II : BIOCHEMISTRY AND PHYSIOLOGY-I (ZOO 302)

| | | |
|-------|---------------------|-----------|
| | Max. Marks | : 40 |
| marks | Theory Exam. | : 36 |
| | Internal Assessment | : 4 marks |
| | Time | : 3 hours |

Note : Nine questions are to be set. Question No.1 is compulsory consisting of short answer type questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, Five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.

UNIT-I

Biochemistry and its scope;
Carbohydrates, proteins, lipids and nucleic acids: their classifications, structure and functions.

UNIT-II

- Enzymes : Nature, nomenclature, mode of action, their classification, coenzymes and cofactors.
- Carbohydrate metabolism : The Embden Meyerhoff, Parnas pathway (glycolysis), the tricarboxylic acid cycle, the hexose monophosphate shunt, glycogenesis and glycogenolysis.

UNIT-III

- Digestion : Digestion of dietary constituents, regulation of digestive processes and absorption. extra and intra cellular digestion, enzymatic digestion and symbiotic digestion.
- Respiration : Exchange and transport of respiratory gases, Oxygen dissociation curve of haemoglobin, Bohr effect, chloride shift, Haldane effect and control of breathing.

UNIT-IV

- Blood : Composition and functions of blood and lymph. Function of hemoglobin, blood clotting. Blood groups including Rh. Factor.
- Heart : Origin and regulation of heart beat, cardiac cycle, electrocardiogram, cardiac output, blood pressure and micro-circulation.

Suggested Readings

1. Taneja, S.K. : Biochemistry & Animal Physiology, Trueman Book Co.,1997.
2. Guyton, A.S. : Text Book of Medical Physiology, 14th edition, W.B. Saunders Company, 2020.
3. Robert, K., Murray, R.K., Daryl, M., Granner, K., Victor, W. and Woodwell. : Harper's Biochemistry, 22nd edition, Prentice – Hall International, Inc.,1990
4. Nelson, D.L. and Cox, M.M. : Lehninger Principles of Biochemistry, 5th edition, W.H., Freeman and Company, New York, 2008.

PRACTICALS : Practical based on Theory Papers ZOO 301 & 302 (ZOO 251)

1. Classification up to orders habits, habitats, distinctive characters and economic importance(if any) of the following animals :

| | | |
|--------------------|---|---|
| Urochordata | : | <i>Herdmania, Molgula, Pyrosoma, Doliolum, Salpa & Oikopleura.</i> |
| Cephalochordata | : | <i>Amphioxus.</i> |
| Cyclostomata | : | <i>Myxine, Petromyzon & Ammocoetes Larva.</i> |
| Chondrichthyes | : | <i>Zygaena (Hammer headed shark), Pristis (Saw fish), Narcine (Electric ray), Trygon, Rhinobatus and Chimaera (Rabbit fish).</i> |
| Actinoptergii | : | <i>Polypterus, Acipenser, Lepisosteus, Muraena, Mystus, Catla, Hippocampus, Syngnathus, Exocoetus, Anabas, Diodon, Tetradon, cheneis and Solea.</i> |
| Dipneusti (Dipnoi) | : | <i>Protopterus</i> |
| Amphibia | : | <i>Uraeotyphlus, Necturus, Amphiuma, Ambystoma and its Axolotl larva, Triton, Salamandra, Hyla, Rhacophorus.</i> |
2. Demonstrate the dissection of following animals through video clipping, charts, models etc.

| | | |
|------------------|---|--|
| <i>Herdmania</i> | : | General anatomy |
| <i>Labeo</i> | : | Digestive, reproductive systems, heart, afferent and efferent branchial arteries and cranial nerves. |
3. Study of the skeleton of *Labeo, Hoplobatrachus Tigerinus*(frog)
4. Study of the following prepared slides :

| | |
|--|--------------------------------|
| T.S. <i>Amphioxus</i> | through various regions. |
| Spicules & pharynx of <i>Herdmania</i> | & pharynx of <i>Amphioxus.</i> |
5. Study of the following prepared slides :

| | |
|-------------------|---------------------|
| Histology of frog | (compound tissues). |
|-------------------|---------------------|
6. Recording of blood pressure of man
7. Estimation of haemoglobin content in blood.
8. Estimation of the presence of amylase in saliva, denaturation by pH and temperature.
9. Field study : Visit to a fossil Park/Museum. Familiarity with the local vertebrate fauna and report.

Guidelines for conduct of Practical Examination

| | |
|---------------------|------------|
| Max. Marks | : 20 |
| Practical Exam. | : 18 marks |
| Internal Assessment | : 2 marks |
| Time | : 3 hours |

1. Draw a labeled sketch of -----system of given animal and explain it to the examiner. (2)
2. Identify the given bones A & B. Make labelled sketches of their respective _____views. (2)
3. Minor experiment of physiology related to blood /osmosis /diffusion. (1½)
4. Perform the given physiology experiment, write the procedure and show it to the examiner such as identification of some food stuffs/presence of chloride or glucose in urine etc./Salivary Amylase/Blood. (2)
5. Identify the slides F-H giving two reasons for each identification. (2)
6. Identify and classify the specimens F to I upto orders. Write a short note on habitat of F, special feature of G, feeding habit of H and economic importance of specimen I. (4½)
7. Viva-voce. (2)
8. Note book and Project Report. (2)

ZOOLOGY**B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024
SEMESTER-IV**

| | |
|---|--------------------|
| Paper I: Biodiversity (Chordates) & Evolution – II | 40 (36 + 4) marks |
| Paper II : Biochemistry & Animal Physiology-II | 40 (36 + 4) marks |
| Practical (Covering the entire syllabus) of 4 hours duration | 20 (18 +2) marks |
| | ----- |
| | Total : 100 |

marks

Note : The number of hours for Theory and Practical per week shall be 6 hours and 4 hours respectively.

OBJECTIVES OF THE COURSE

The syllabus pertaining to B.Sc. (General) Part-II, in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges.

The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance may be given to skill oriented components.

The course contents are also given due stress for excursion/field trips to Zoological Parks, Sea-shores, Hill Stations, Museum, Fossil Park and Apiary/godowns for better academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshop/seminars from time to time for updating the teachers.

PAPER – I : BIODIVERSITY (CHORDATES) & EVOLUTION- II (ZOO 401)**UNIT-I**

Reptilia- Type study-*Uromastix*, Poisonous and non-poisonous snakes, Poison apparatus in snakes.

Classification of the animals up to orders relating to the following groups along with brief ecological notes of the following :

Reptilia : *Chelone* (turtle) and *Testudo* (Tortoise), *Hemidactylus* (wall lizard), *Calotes*, *Draco*, *Varanus*, *Phrynosoma*, *Chamaeleon*, *Typhlops*, *Python*, *Eryx*, *Bungarus*, *Naja*, *Hydrus*, *Vipera*, *Crocodilus*, *Gavialis* and Alligator.

UNIT-II

Aves-Type study-Pigeon, Flight adaptations in birds.

Classification of the animals up to orders relating to the following groups along with brief ecological notes of the following :

Aves : *Ardea*, *Milvus*, *Pavo*, *Tyto*, *Alcedo*, *Eudynamis* and *Casuaris*.

UNIT- III

Mammals-Type study-Rat, Dentition in mammals.

Mammalia : *Ornithorhynchus, Echidna, Didelphis, Macropus* (Kangaroo), *Loris, Macaca, Manis* (Scaly ant eater), *Hystrix* (porcupine), *Funambulus* (Squirrel) *Panthera, Canis, Herpestes* (Mongoose), *Capra, Pteropus*.

UNIT-IV

Concept of micro, macro and mega-evolution.

Biological concept of species.

Fossils and dating of fossils.

Evolution of man.

Suggested Readings

1. Parker, T.J. and Haswell, W.A. : Text Book of Zoology, Vol. II (Vertebrates), ELBS and Macmillan Press Ltd., 1981.
2. Dobzhansky, T., Ayala, F.J., Stebbins, G.L. and Valentine, J.W. : Evolution, WH Freeman, 1952.
3. Colbert, E.H. : Evolution of Vertebrates, IInd edition, Wiley Eastern Ltd., 1989.
4. Dhama, P.S. and Dhama, J.K. : Vertebrates, R. Chand & Co., New Delhi, 1998.
5. Bhamrah, H.S. and Juneka, K. : Cytogenetics & Evolution, Anmol Publication Pvt.Ltd., 1993.

PAPER II : BIOCHEMISTRY AND PHYSIOLOGY-II (ZOO 402)

| | |
|---------------------|------------|
| Max. Marks | : 40 |
| Theory Exam. | : 36 marks |
| Internal Assessment | : 4 marks |
| Time | : 3 hours |

Note : Nine questions are to be set. Question No.1 is compulsory consisting of short answer type questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, Five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.

UNIT-I

Lipid metabolism : B-oxidation of fatty acids, fate of glycerol and gluconeogenesis, interaction of carbohydrates and lipids, lipogenesis in tissues, ketosis.

UNIT-II

Protein metabolism : Metabolism of amino acids (Oxidative deamination, transamination and decarboxylation), hydrolysis of proteins and Ornithine cycle).

UNIT-III

Excretion : Structure and types of nephron, urine formation, osmoregulation and counter current mechanism, composition of urine.

Muscles : Ultrastructure, chemical and physiological basis of skeletal muscle contraction.

UNIT-IV

Neural Integration : Structure of neuron, resting membrane potential, origin and propagation of impulse along the axon, synapse and myoneural junction.

Endocrine System : Structure, hormones and functions of thyroid, parathyroid, adrenal, pineal, hypothalamus, pituitary, pancreas, gonads, thymus, hormones of alimentary canal and kidney.

Suggested Readings

1. Taneja, S.K. : Biochemistry & Animal Physiology, Trueman Book Co.,1997.
2. Guyton, A.S. : Text Book of Medical Physiology, 14th edition, W.B. Saunders Company, 2020.
3. Robert, K., Murray, R.K., Daryl, M., Granner, K., Victor, W. and Woodwell. : Harper's Biochemistry, 22nd edition, Prentice – Hall International, Inc.,1990
4. Nelson, D.L. and Cox, M.M. : Lehninger Principles of Biochemistry, 5th edition, W.H., Freeman and Company, New York, 2008.

PRACTICALS : Practical based on Theory Papers ZOO 401 & 402 (ZOO 252)

1. Classification up to orders habits, habitats, distinctive characters and economic importance(if any) of the following animals :

| | | |
|----------|---|--|
| Reptilia | : | <i>Chelone</i> (Turtle) and <i>Testudo</i> (Tortoise), <i>Hemidactylus</i> , <i>Calotes</i> , <i>Draco</i> , <i>Varanus</i> , <i>Phrynosoma</i> , <i>Chamaeleon</i> , <i>Typhlops</i> , <i>Python</i> , <i>Eryx</i> , <i>Ptyas</i> , <i>Bungarus</i> , <i>Naja</i> , <i>Hydrus</i> , <i>Vipera</i> , <i>Crocodilus</i> , <i>Gavialis</i> . |
| Aves | : | <i>Casuarius</i> , <i>Ardea</i> , <i>Anas</i> , <i>Milvus</i> , <i>Pavo</i> , <i>Eudynamis</i> , <i>Tyto</i> and <i>Alcedo</i> . |
| Mammalia | : | <i>Ornithorhynchus</i> , <i>Echidna</i> , <i>Didelphis</i> , <i>Macropus</i> , <i>Loris</i> , <i>Macaca</i> , <i>Manis</i> , <i>Hystrix</i> , <i>Funambulus</i> , <i>Panthera</i> , <i>Canis</i> , <i>Herpestes</i> , <i>Capra</i> , <i>Pteropus</i> . |
2. Demonstrate the dissection of following animals through video clipping, charts, models etc.

| | | |
|-----------|---|---|
| Chick | : | Digestive, arterial, venous and urinogenital systems. |
| White Rat | : | Digestive, arterial, venous and urinogenital systems. |
3. Study of the skeleton of *Varanus*, *Gallus* and Rat/ *Oryctolagus* (Rabbit).
4. Study of the following prepared slides :
Histology of rat/rabbit (compound tissues)
5. Study of blood smear of a mammal.
6. Identification of food stuffs: starch, glucose, proteins and fats in solution.
7. Demonstration of osmosis and diffusion.
8. Analysis of urine for urea, chloride, glucose and uric acid.
9. An idea of location of endocrine glands in mammals through charts / models/ video clippings
10. Tracing of human evolution through models.

Field study : Visit to a fossil Park/Museum. Familiarity with the local vertebrate fauna and report.

Guidelines for conduct of Practical Examination

| | | |
|---------------------|---|----------|
| Max. Marks | : | 20 |
| Practical Exam. | : | 18 marks |
| Internal Assessment | : | 2 marks |
| Time | : | 3 hours |

1. Draw a labeled sketch of -----system of given animal and explain it to the examiner. (2)
2. Identify the given bones A & B. Make labelled sketches of their respective _____ views. (2)
3. Minor experiment of physiology related to blood /osmosis /diffusion. (1½)
4. Perform the given physiology experiment, write the procedure and show it to the examiner such as identification of some food stuffs/presence of chloride or glucose in urine etc./Salivary Amylase/Blood. (2)
5. Identify the slides D & E giving two reasons for each identification. (2)
6. Identify and classify the specimens F to I upto orders. Write a short note on habitat of F, special feature of G, feeding habit of H and economic importance of specimen I. (4½)
7. Viva-voce. (2)
8. Note book and Project Report. (2)

BIOCHEMISTRY**B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024****SEMESTER-III****INSTRUCTIONS FOR PAPER SETTER AND STUDENTS:**

1. Total No. of questions will be nine. All questions carry equal marks.
2. Q. No. 1 will be compulsory. It will consist of short questions covering the entire syllabus.
3. Besides question Number 1, there will be 4 sections of 2 questions each.
4. All other questions may contain 2-3 parts.
5. Questions should be uniformly spread over the entire syllabus.
6. Students will be required to attempt 5 questions in all including Q. No. 1 and at least one question from each of the 4 sections.

Paper A: Carbohydrate & Lipid metabolism**Marks: 45+5**

Objective: To learn about digestion and absorption of carbohydrates and lipids and major metabolic pathways pertaining to them.

SECTION-I**(Lectures- 10)**

Introduction to Metabolic pathways. General principles of metabolic pathways, Digestion and absorption of carbohydrates, Metabolism of carbohydrates, glycolysis and alcoholic fermentation, the pentose phosphate pathway, metabolism of fructose, galactose, TCA cycle and pyruvate dehydrogenase complex.

SECTION-II**(Lectures- 10)**

Glucuronate and glyoxylate pathway, gluconeogenesis, Cori cycle, glycogenolysis & glycogenesis, biosynthesis of starch and ascorbic acid.

SECTION-III**(Lectures- 10)**

Digestion and absorption of lipids, beta-Oxidation of fatty acids including odd chain fatty acids. Alpha and omega oxidation of fatty acids. Formation and utilization of ketone bodies. Biosynthesis of saturated and unsaturated fatty acids.

SECTION-IV**(Lectures-10)**

Biosynthesis and degradation of phospholipids and triglycerides. Cholesterol biosynthetic pathway. Biosynthesis of cerebroside, sulfatide and ganglioside. Biosynthesis of prostaglandins, thromboxanes, leukotrienes, lipoxins and prostacyclins.

Books:

1. Biochemistry by Lubert Stryer, Ed. 7th 2013, W.F. Freeman and Co., New York.
2. Lippincott's Illustrated Reviews: Biochemistry by P.C. Champe, R.A. Harvey & D.R. Ferrier, Indian Edition, 2005.
3. Harper's Illustrated Biochemistry by R.K. Murray, P.A. Mayes, D.K. Granner and V.W. Rodwell, 29th Ed. 2012, Prentice Hall International Ltd. (U.K.).
4. Voet D and Voet JG. Biochemistry 4th Edition, John Wiley and Sons Inc., 2011.

PRACTICALS:**Marks: 25****One practical per week**

1. Assay of LDH
2. Separation of LDH isozymes by electrophoresis
3. Glycogen isolation from liver and its estimation
4. Identification of sugars by osazone formation
5. Estimation of blood glucose by Nelson Somogyi method.
6. Separation of lipids by Thin layer chromatography.
7. Estimation of total cholesterol in serum.
8. Estimation of pyruvic acid.

Paper B: Protein & Nucleic acid metabolism**Marks: 45+5**

Objective: To learn major metabolic pathways pertaining to nitrogenous compounds proteins & nucleic acids.

SECTION-I**(Lectures -10)**

Digestion & absorption of proteins, nitrogen balance, general reactions of amino acids: deamination, transamination and decarboxylation. Urea cycle.

SECTION-II**(Lectures-10)**

Catabolism of carbon skeletons of amino acids: glycine, alanine, serine and threonine, phenylalanine and tyrosine, tryptophan, histidine, leucine, valine and isoleucine, cysteine and methionine, lysine, glutamic acid and glutamine, aspartic acid and asparagine.

SECTION-III**(Lectures-10)**

Biosynthesis of nutritionally non-essential amino acids: glutamate and glutamine, aspartate and asparagine, proline, alanine, cysteine & selenocysteine, tyrosine, serine, glycine. Conversion of amino acids to specialized products: polyamines, catecholamine, glutathione, creatinine, melanin, serotonin.

SECTION-IV**(Lectures -10)****Nucleic Acids**

Degradation and biosynthesis of purines and pyrimidines nucleotides salvage pathway, formation of deoxy ribonucleotides, biosynthesis and degradation of heme. Disorders of purine & pyrimidine metabolism, anticancer drugs.

Books:

3. Biochemistry by Lubert Stryer, Ed.9th 2019, W.F. Freeman and Co., New York.
4. Lippincott's Illustrated Reviews: Biochemistry by P.C.Champe, R.A. Harvey & D.R. Ferrier, Indian 7th Edition, 2017.
4. Harper's Illustrated Biochemistry by R.K. Murray, P.A. Mayes, D.K. Granner and V.W. Rodwell, 34th Ed. 2018, Prentice Hall International Ltd. (U.K.).
- Voet D and Voet JG. Biochemistry 4th Edition, John Wiley and Sons Inc., 2012

PRACTICALS:

Marks : 25
One Practical per week

1. Separation of serum and plasma.
2. Absorption spectra of protein-BSA, nucleic acids- Calf thymus DNA and RNA.
3. Separation and identification of amino acids by Paper chromatography
4. Determination of total protein and A/G ratio in serum.
5. Estimation of creatinine
6. Colorimetric estimation of inorganic phosphate.
7. Estimation of serum urea
8. Estimation of bilirubin

BIOCHEMISTRY
B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2023-2024
SEMESTER-IV

INSTRUCTIONS FOR PAPER SETTER AND STUDENTS:

1. Total No. of questions will be nine. All questions carry equal marks.
2. Q. No. 1 will be compulsory. It will consist of short questions covering the entire syllabus.
3. Besides question Number 1, there will be 4 sections of 2 questions each.
4. All other questions may contain 2-3 parts.
5. Questions should be uniformly spread over the entire syllabus.
6. Students will be required to attempt 5 questions in all including Q. No. 1 and at least one question from each of the 4 sections.

Paper A: Advanced Biochemical Techniques**Marks: 45+5**

Objective: To understand the principles and applications of cell biology techniques, spectroscopic, radioisotopic & spectrometry techniques.

SECTION-I**(Lectures: 10)****General Laboratory Techniques:**

Basic principles used in biochemical techniques and their applications to biological systems (Membrane/ultra-filtration, dialysis, diffusion, surface tension, viscosity). Cell biology techniques: microbial, animal and plant cell/tissue culture, and cryopreservation. Extraction from cell by cell disruption/homogenization/sonication, cell sorting, cell counting,

SECTION-II**(Lectures: 10)**

Fluorimetry, phenomena of fluorescence, intrinsic and extrinsic fluorescence, FRET instrumentation and applications. **Fluorescence spectroscopy:** principle, applications of fluorescence activated cell sorting (FACS), different fluorescence in situ hybridization (FISH)

SECTION-III**Radio isotopic techniques:****(Lectures: 10)**

Nature of isotopes and radioisotopes. Radioactive decay. Properties of radioactive emissions. Units of radioactivity. Techniques used to measure radioactivity; GM counter and liquid scintillation counting and gamma counter. Labelling of biochemical compounds and autoradiography. Use of radioactive tracers in the study of enzyme reaction mechanisms and metabolic pathways. Radioimmunoassay. Biological hazards of radiation and safety measures in handling radioisotopes.

SECTION-IV**(Lectures: 10)**

Nuclear magnetic resonance (NMR) and Electron spin resonance (ESR): theory, applications. Atomic spectrometry; mass spectrometry: matrix assisted desorption ionization (MALDI)

Books Suggested:

1. Biochemical Techniques – Theory and Practice by John. F. Robyt and Bernard J. White Cole Publishing Co. (U.S.A.).
2. Physical Biochemistry: Application to Biochemistry and Molecular Biology by David Freifelder W.H. Freeman and Company (U.S.A.).
3. Physical Biochemistry: Principles and Applications by 2013 David Sheehan

PRACTICALS:**Marks: 25****One Practical per week**

1. Electrophoresis of nucleic acids.
2. Gram staining of cells.
3. Cell fractionation
4. Estimation of marker enzyme of mitochondria
5. Estimation of marker enzyme of lysosomes
6. Introduction to Haemocytometer
7. Cell counting/counting viability
8. Paper chromatography of carbohydrates.

Paper B: Membrane Biochemistry**Marks: 45+5**

Objective: to make students aware of structural and functional aspects of membranes. Highlighting the significance of their compositional heterogeneity and to various cell functions.

SECTION-I**(Lectures -10)**

Introduction: membrane structure and organization: physical and biological models of membranes structure. Protein- lipid interactions in membranes, fluid mosaic model of membrane structure, its merits and demerits. Constituents of biological membranes in prokaryotes and eukaryotes. Asymmetry of biomembranes. Structure of RBC membrane.

SECTION –II**(Lectures-10)**

Membrane dynamics: Physical properties of membrane lipids, membrane fluidity, Phase transitions, cytological biochemical probes and methods to study membrane fluids. Membrane transport: Typical properties of membrane transport, passive diffusion, facilitative diffusion, Carrier mediated active transport. Role of Na, K- ATPase, Ca-ATPase & H⁺-ATPase. Ionophores and siderophores, structure and functions.

SECTION –III**(Lectures-10)**

Membrane analysis: isolation and characterization of cell membrane, criteria of membrane purity. Solubilization of membranes and their reconstitution. Labeling of membrane probes and determination of transbilayer distribution of membrane components. Liposomes: unilamellar and multilamellar vesicles. Methods of their preparation, characterization and their applications in targeting drugs and gene therapy.

SECTION –IV**(Lectures-10)**

Biogenesis and turnover of membranes: Synthesis of membrane components and their trafficking, signal hypothesis, coated vesicles. Regulation and coordination of membrane component synthesis. Membrane disorders: erythrocyte deformities, transport disorders. Disorders of membrane lipids

Books Suggested

1. Jain, MK. Introduction to Biological membranes, John Wiley and sons New York, 1988
2. Vance, DE & Vance JE, Biochemistry of lipids and Biomembranes, Benjamin Cummings, 1985
3. Jones MN & Chapman D. Micelles monolayers and biomembranes, Wiley-Lis New York, 1995
4. Lodish H. Molecular Cell biology, WH Freeman and Company, 2013
5. Various review articles.

PRACTICALS:**Marks: 25****One Practical per week**

1. Demonstration of hypotonic, hypertonic and osmotic media.
2. Preparation of starch from potato and its hydrolysis by salivary amylase.
3. Preparation of red cell ghost membrane
4. Cell lysis by sonication
5. Cell counting/counting viability.
6. GM counters

MICROBIOLOGY**B.Sc. (GENERAL) SECOND YEAR (3rd and 4th Semester) EXAMINATION, 2023-2024**

- Note:**
1. A student who has passed the + 2 examination under 10+2+3 system of education of a recognized University/Board/Council or any other examination recognized by the Panjab University as equivalent thereto shall be eligible to offer the subject of Microbiology at the B.Sc. level, if he/she has passed the +2 examination with Physics, Chemistry, Mathematics, Biology as his/her subjects.
 2. Only such colleges which have all necessary infrastructure or equipment and staff shall admit students to the subject of Microbiology. The infrastructure must be approved by the University as per usual practice.

SEMESTER-III

| Scheme of Examination | Duration | Marks |
|---|--------------|----------------------|
| THEORY | 6 hrs | 75 (33+33+9*) |
| MIC 301: Introduction to Medical Microbiology-I | 3 hrs. | 37.5 (33+4.5*) |
| MIC 302 : Introductory Immunology – I | 3 hrs. | 37.5 (33+4.5*) |
| PRACTICAL | | |
| One Practical examination pertaining to the entire syllabus included in Theory Papers MIC 301 and MIC 302 | 3 hrs | 25 (22+3*) |

Semester IV

| | | |
|---|--------------|----------------------|
| THEORY | 6 hrs | 75 (33+33+9*) |
| MIC 401: Introduction to Medical Microbiology-II | 3 hrs. | 37.5 (33+4.5*) |
| MIC 402 : Introductory Immunology –II | 3 hrs. | 37.5 (33+4.5*) |
| PRACTICAL | | |
| One Practical examination pertaining to the entire syllabus included in Theory Papers MIC 401 and MIC 402 | 3 hrs | 25 (22+3*) |

Note : * Denotes marks for the Internal Assessment.

MICROBIOLOGY
SEMESTER-III

MIC 301 : INTRODUCTION TO MEDICAL MICROBIOLOGY-I

MAX. MARKS: 37.5 MARKS

THEORY: 33 MARKS

INTERNAL ASSESSMENT: 4.5 MARKS

TIME: 3 HRS.

Note: The question paper will consist of four sections (A-D). There will be nine questions and five questions have to be attempted. Question 1 will span the complete syllabus and will be compulsory. Rest eight questions will be from different sections of the syllabus. There will be two questions from each of four sections and one is to be attempted. Each question will be subdivided into 2-4 sub-parts.

Section A

Brief introduction to terminology of infectious diseases, Frequency of disease, Recognition of infectious disease, Infectious disease cycle.

Section B

Nomenclature and classification of microbes of medical importance, criteria of classification

Section C

Microbial adherence, Active penetration into body, Passive penetration into body, Microbial production of enzymes in the body

Section D

Development of chemotherapy, General characteristics of antimicrobial drugs, Determining level of antimicrobial activity, Mechanism of action of antimicrobial drugs, Factors influencing the effectiveness of antimicrobial drugs.

Recommended Books :

1. Bergey's Manual of Systematic Bacteriology. Vol-I (2001), The Archae and the Deeply Branching Phototrophic Bacteria, David, R. Boone and Richard, W. Castenholz (author) George Garrity (editor).
2. Prescott, L.M., Harley, J.P., Klein, D.A. (2002), Microbiology, Mc Graw Hill.
3. Tortora, G.J., Funke, B.R., Case C.L (2004), Microbiology, An Introduction, Pearson Education.
4. Mims, C., Playfair J., Roitt I., Wakelin D., Williams R., (2000), Medical Microbiology , Mosby, London, St. Louis.

MIC 302 : INTRODUCTORY IMMUNOLOGY-I**MAX. MARKS: 37.5 MARKS****THEORY: 33 MARKS****INTERNAL ASSESSMENT: 4.5 MARKS****TIME: 3 HRS.**

Note: The question paper will consist of four sections (A-D). There will be nine questions and five questions have to be attempted. Question 1 will span the complete syllabus and will be compulsory. Rest eight questions will be from different sections of the syllabus. There will be two questions from each of four sections and one is to be attempted. Each question will be subdivided into 2-4 sub-parts.

Section A

Introduction and history of immunology, Non-specific defence; Physical barriers, Chemical barriers, Cellular, Phagocytosis, Inflammatory barriers, Inflammation, Fever, Types of Immunity, Active and Passive Immunity, Immunological memory

Section B

Humoral Immune Response, Antibodies/ Immunoglobulins, Structure, function and type of antibodies

Section C

Cell Mediated Immune System (CMI), Mechanism of CMI, Types of effector T cells, Helper T cells, Suppressor T cells, Cytotoxic T cells, Killer T cells, Interactions between T and B lymphocytes

Section D

Antigen-antibody interactions,: Precipitation reaction, Immunodiffusion test, Counter current Immuno electrophoresis, Complement fixation tests

Recommended Books :

1. T.J. Kindt, R.A.G.B.A. Osborne, J. Kuby (2006), Immunology, W.H. Freeman and Company, USA.
2. N.Shetty (2005), Immunology, Introductory Text Book, New Age International (P.) Limited, (Formerly Wiky Eastern Limited).
3. Paul, W.E (2008), Fundamental Immunology, Lippincott Williams & Wilkins.
4. Roitt, I.M., Brostoff, J., Male D.K. (2001), Immunology, Illustrated Publishers, Mosby.
5. Lydyard, P.M., Whelan, A., Fanger, M.W. (2003), Instant Notes in Immunology, Viva Books Private Limited.
6. Kannan, I. (2007), Immunology, M.J.P. Publishers.
7. Hannigan, B.M. (2008), Immunology, Viva Books Private Limited.

MICROBIOLOGY
PRACTICAL
B.Sc. (GENERAL) SECOND YEAR EXAMINATION
Semester-III

MAX. MARKS: 25 MARKS
PRACTICAL: 22 MARKS
INTERNAL ASSESSMENT: 3 MARKS
TIME: 3 HRS.

- 1 Staining- Gram staining, Albert and ZNCF staining
- 2 Isolation and maintenance of pure cultures
- 3 Physiological characteristics of bacteria and its use for their identification
- 4 Assay of antimicrobials
- 5 Preparation of serum/plasma

MICROBIOLOGY
B.Sc. (GENERAL) SECOND YEAR EXAMINATION
MIC 401 : INTRODUCTION TO MEDICAL MICROBIOLOGY-II

Semester IV

MAX. MARKS: 37.5 MARKS
THEORY: 33 MARKS
INTERNAL ASSESSMENT: 4.5 MARKS
TIME: 3 HRS.

Note: The question paper will consist of four sections (A-D). There will be nine questions and five questions have to be attempted. Question 1 will span the complete syllabus and will be compulsory. Rest eight questions will be from different sections of the syllabus. There will be two questions from each of four sections and one is to be attempted. Each question will be subdivided into 2-4 sub-parts.

Section A

Virulence and mode of transmission, Emerging and reemerging infectious diseases, Global travel and health considerations, Nosocomial infections

Section B

Origin of normal flora, Germ free and gnotobiotic life, Distribution and occurrence of Normal flora of skin, eye, respiratory tract, mouth, intestinal tract and genitourinary tract

Section C

Events in infection following penetration, Microbial virulence factors

Section D

Antibacterial drugs viz. sulphonamides, Quinolones, Penicillins, Cephalosporins, Tetracyclines, Erythromycin, and Chloramphenicol, Drug resistance, Antifungal and antiviral drugs

Recommended Books :

1. Bergey's Manual of Systematic Bacteriology. Vol-I (2001), The Archae and the Deeply Branching Phototrophic Bacteria, David, R. Boone and Richard, W. Castenholz (author) George Garrity (editor).
2. Prescott, L.M., Harley, J.P., Klein, D.A. (2002), Microbiology, Mc Graw Hill.
3. Tortora, G.J., Funke, B.R., Case C.L (2004), Microbiology, An Introduction, Pearson Education.
4. Mims, C., Playfair J., Roitt I., Wakelin D., Williams R., (2000), Medical Microbiology , Mosby, London, St. Louis.

MICROBIOLOGY
B.Sc. (GENERAL) SECOND YEAR EXAMINATION
MIC 402 : INTRODUCTORY IMMUNOLOGY-II

Semester IV

MAX. MARKS: 37.5 MARKS
THEORY: 33 MARKS
INTERNAL ASSESSMENT: 4.5 MARKS
TIME: 3 HRS.

Note: The question paper will consist of four sections (A-D). There will be nine questions and five questions have to be attempted. Question 1 will span the complete syllabus and will be compulsory. Rest eight questions will be from different sections of the syllabus. There will be two questions from each of four sections and one is to be attempted. Each question will be subdivided into 2-4 sub-parts.

Section A

Primary and secondary lymphoid organs, Mucosa associated lymphoid tissues (MALT), Cutaneous associated lymphoid tissues (CALT), Lymphocyte traffic, Cells of Immune system, Antigens; Factors affecting Immunogenicity, Epitopes, Haptens

Section B

Antigenic combining regions of antibodies, Factors influencing antibody production, Genetic model, Multigene organisation, Generation of antibody diversity

Section C

Cytokines, Lymphokines, Colony stimulating factors, Tumour necrosis factors, Interferons, Accessory cells (Macrophages), the complement system, Classical and alternate pathway, HLA, Monoclonal antibody technology and its applications

Section D

Antigen-antibody Interactions: Widal test, Wasserman's test, Weil-Felix reaction, Western blotting, Types of Vaccines

Recommended Books :

1. T.J. Kindt, R.A.G.B.A. Osborne, J. Kuby (2006), Immunology, W.H. Freeman and Company, USA.
2. N.Shetty (2005), Immunology, Introductory Text Book, New Age International (P.) Limited, (Formerly Wiky Eastern Limited).
3. Paul, W.E (2008), Fundamental Immunology, Lippincott Williams & Wilkins.
4. Roitt, I.M., Brostoff, J., Male D.K. (2001), Immunology, Illustrated Publishers, Mosby.
5. Lydyard, P.M., Whelan, A., Fanger, M.W. (2003), Instant Notes in Immunology, Viva Books Private Limited.
6. Kannan, I. (2007), Immunology, M.J.P. Publishers.
7. Hannigan, B.M. (2008), Immunology, Viva Books Private Limited.

MICROBIOLOGY
PRACTICAL
B.Sc. (GENERAL) SECOND YEAR EXAMINATION
Semester - IV

MAX. MARKS: 25 MARKS
PRACTICAL: 22 MARKS
INTERNAL ASSESSMENT: 3 MARKS
TIME: 3 HRS.

1. Sterilization- Introduction to autoclave, hot air oven, filter sterilization
2. Demonstration of Immune organs in dissected animals
3. Demonstration of Immune cells in smears prepared from Immune organs
4. Complement fixation
5. Antigen-antibody interactions:
 - Agglutination
 - Precipitation
 - Blood grouping
 - Immunodiffusion

ELECTRONICS
(KEPT IN ABEYANCE)

AGRICULTURE**B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATIONS, 2023-2024****SEMESTER-III****Paper – III : Agricultural Diversification and Machinery**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 75 Marks |
| Theory | : | 70 Marks |
| Internal Assessment | : | 5 Marks |
| Time | : | 3 Hours |

- Period per week :**
1. Theory – 4 of 45 minutes duration each.
 2. Practical – Two of three hours duration.

INSTRUCTIONS FOR THE PAPER SETTER AND THE STUDENTS :

1. The syllabus of this paper has been divided into Four Units.
2. Question paper shall comprise of 9 questions in all.
3. Question 1 shall comprise of 10 short answer type questions covering the whole syllabus and will be **compulsory**. Each question will carry 1 (one) mark.
4. Units I, II, III and IV shall have two questions each from respective units, out of which one question from each unit is to be attempted. Each question will be of 15 (fifteen) marks.
5. Total five questions are to be attempted.

Unit-I

Agricultural aid on works :

Dairy
Poultry
Fishery
Mushroom Cultivation
Animal Husbandry
Bee Keeping

Unit-II

Maintenance of grassy lawns and flower beds.
Raising of winter and summer ornamental flowers (rose, gladioli, dahlias, dianthus, foliage plants).
Fundamentals of landscape of an educational institute, factory, panchayat lands and office buildings.

Unit-III

Introduction to medicinal, aromatic and spice plants.
Growing of non-conventional plants.
Basic idea of Genetically Modified crops.
Fundamentals of land measurements and land revenue.

Unit-IV

Important parts of the tractor, combine, thresher and their maintenance.

PRACTICAL

| | | |
|---------------------|---|----------|
| Max. Marks | : | 25 Marks |
| Practical | : | 20 Marks |
| Internal Assessment | : | 5 Marks |
| Time | : | 3 hours |

Visit to Poultry Farms, Fish Ponds, Apiary, Dairy Farms
Raising various ornamental flowers of different seasons
Maintenance of grassy lawns
Study the parts of engines, tractor and combine

Books recommended :

1. Agriculture Engineering Vol.I and Vol. II, A. M. Michae, T.P. Ojha, 2006, Jain Brothers, New Delhi.
2. Mushroom Growing, 1997, H. S. Garcha, P. A. U., Ludhiana.
3. Hand Book of Agriculture, 2008, ICAR, New Delhi.
4. Farm Machinery, An Approach, S.C. Jain and Grace Philips, 2006, Standard Publishers, Distributors, New Delhi.
5. Fundamentals of Dairy Chemistry, Wong, Jenness, Keeney and Marth, 1998, CBS Publishers and Distributors, New Delhi.
6. Milk and Milk Products, Clarence Henry Eckles, Willes Barnes Combs and Harold Macy, Delhi, 2006, Tata McGraw Hill Publishing Company Limited, New Delhi.
7. Introduction to Plant Biotechnology, H. S. Chawla, 2008, Oxford and IBH Publishing Company Pvt. Ltd., New Delhi 2.
8. Plant Biotechnology, B. D. Singh, 2009, Kalyani Publishers, Ludhiana.
9. Aquarium and Fish Keeping, C. B. L. Srivastava, 2006, Kitab Mahal Allahabad.
10. Medicinal Plants of India, R. Zafar, 2006, CBS Publishers and Distributors, New Delhi.
11. Spices and Condiments, J. S. Pruthi, 2008, National Book Trust, New Delhi.

AGRICULTURE**B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATIONS, 2023-2024
SEMESTER-IV****Paper – IV : Cultivation Practices of Vegetables, Timber and basic statistical methods**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 75 Marks |
| Theory | : | 70 Marks |
| Internal Assessment | : | 5 Marks |
| Time | : | 3 Hours |

- Period per week :**
1. Theory – 4 of 45 minutes duration.
 2. Practical – Two of three hours duration.

INSTRUCTIONS FOR THE PAPER SETTER AND THE STUDENTS :

- 1 The syllabus of this paper has been divided into four units.
- 2 Question paper shall comprise of 9 question in all.
- 3 Question 1 shall comprise of 10 short answer type questions covering the whole syllabus and will be **compulsory**. Each question will carry 1 (one) mark.
- 4 Units I, II, III and IV shall have two questions each from respective Units, out of which one question from each unit is to be attempted. Each question will be of 15 (fifteen) marks.
- 5 Total five questions are to be attempted.

Unit – I

Tillage, Fundamentals and Principles of Tillage, Zero Tillage, Tillage Implements.

Unit – II

Cultivation Practices of Potato, Tomato; Bhindi, Cabbage; Onion and Asparagus

Unit – III

What are Timbers and Lumbers ?
Raising of Dalbergia; Tectona; Poplar; and Eucalyptus

Unit- IV

Statistical Methods for Agricultural workers including Mean, Mode, Median, Chi-Square, Standard Deviation.

PRACTICAL

| | | |
|---------------------|---|----------|
| Max. Marks | : | 25 Marks |
| Practical | : | 20 Marks |
| Internal Assessment | : | 5 Marks |
| Time | : | 3 hours |

Visit to Agricultural Farms for Fundamental Aspects of Tillage
Raising Forest Nursery
Cultivation of Seasonal Vegetables
Numerical Problems of Statistics

Books :

1. Principles of Agronomy, T. Yellamanda Reddy and G. H. Sankara Reddy, 2008, Kalyani Publishers, Ludhiana.
2. Statistical Methods for Agricultural Workers, V.G. Panse and P.V. Sukhatme, 1997, ICAR, New Delhi.
3. Modern Techniques for Raising Field Crops, Chidda Singh, Prem Singh and Rajbir Singh, 2009, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
4. Vegetable Crops of India, P.C. Das, 1998, Kalyani Publishers, Ludhiana.
5. Potato Cultivation, 1998, Nandpuri and Kumar, P.A.U., Ludhiana.

HOME SCIENCE**B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2023-24
SEMESTER- III****Scheme of Examination**

| Theory | | | | | | Practical | | | | |
|----------------|----------------------|----------------------|---------------------|-----------------------|------------------|----------------------|---------------------|-----------------------|------------------|--------------------|
| <i>Sr. No.</i> | <i>Name of Paper</i> | <i>No. of Papers</i> | <i>Time in hrs.</i> | <i>Marks allotted</i> | <i>Int. Ass.</i> | <i>No. of Papers</i> | <i>Time in hrs.</i> | <i>Marks Allotted</i> | <i>Int. Ass.</i> | <i>Total Marks</i> |
| 1. | Clothing & Textiles | 1 | 3 | 45 | 05 | 1 | 3 | 45 | 05 | 100 |
| Total : | | | | | | | | | | 100 |

Note : 1. Each Practical group will have 12-15 students.

SEMESTER-III**CLOTHING & TEXTILE (THEORY)**

| | |
|-------------------|---------------------------|
| Max. Marks | : 50 |
| Theory | : 45 |
| Int. Ass. | : 05 |
| Hours | : 6 Hours per week |

INSTRUCTIONS FOR THE PAPER SETTER :

The question paper will consist of five Sections: A, B, C, D and E. Sections A, B, C and D will have **two** questions from the respective sections of the syllabus and will carry 9 marks each. Section E will consist of objective type questions covering the entire syllabus uniformly and will carry 9 marks.

INSTRUCTIONS FOR THE CANDIDATES :

Candidates are required to attempt one question each from the Sections A, B, C & D of the question paper and the entire section E.

- Note:
- Internal assessment should be based on: Assignment/test/Seminars & Attendance for Theory & Practical.
 - Practical examination will be held before the final Theory Exams.
 - Practical group should have 12-15 students.

SECTION-A

1. Equipment & supplies used for Clothing construction - their use & care
2. Sewing Machine :
 - (a) Parts of Sewing Machine and its accessories.
 - (b) Common defects in sewing machine & their remedies.
 - (c) Care of Sewing Machine.

SECTION-B

1. Recording of body measurements & care to be taken while taking body measurements.
2. Preparation of fabric for construction- shrinking and straightening.
3. Tools of Drafting, Steps involved in drafting from measurement to garment construction, points to be kept in mind while making a draft.
4. Terms used in construction i.e. Seam Allowance, Ease, Selvedge, Dart, Grain line, Stay stitching.

SECTION-C

1. Classification of textile fibres
2. Manufacture and Properties of fibres:
Cotton, Silk, Wool, Nylon.

SECTION-D

1. Different types of yarns:
Simple, Novelty and Textured Yarns.
2. Fabric Construction –
 - (A) Weaving - Parts of a loom, Process of weaving & Types
 - a. Simple weaves – Plain, Rib, Basket
 - b. Twill weaves
 - c. Satin weave & Sateen weave
 - (B) Knitting, Felting and Bonding.

(SEMESTER-III)**CLOTHING & TEXTILE (PRACTICAL)**

Maximum Marks : 50
Paper : 45
Internal Assessment: 05
Time : 6 Hours per week

1. Make samples of the following :
 - (a) Tacking, running stitch, hemming, Back Stitch, Fasteners using buttonhole stitch
 - (b) Seams—Flat seam, Counter hem, Mantua maker, French Seam & Run & Fell seam.
 - (c) Processes—Continuous wrap, two piece placket opening, pleats, gathers into a band, tucks.
 - (d) Joining- shaped facing on V neck line & piping on round neck.

2. Embroidery—any “10” fancy stitches.

3. Drafting of the following:
 - (a) Jangia
 - (b) Bloomer
 - (c) Child’s bodice block
 - (d) Sleeve- Plain sleeve, Puff sleeve
 - (e) Collars- Baby, Cape & Peter Pan

4. Construction of following :
 - (a) Jangia
 - (b) Bloomer
 - (c) Gathered frock with any sleeve and collar.

HOME SCIENCE

B.A./B.Sc. (GENERAL) SECOND YEAR EXAMINATION, 2023-24 SEMESTER- IV

SEMESTER-IV

| Scheme of Examination | | | | | | | | | | |
|------------------------------|----------------------|----------------------|---------------------|-----------------------|------------------|----------------------|---------------------|-----------------------|------------------|--------------------|
| Theory | | | | | | Practical | | | | |
| <i>Sr. No.</i> | <i>Name of Paper</i> | <i>No. of Papers</i> | <i>Time in hrs.</i> | <i>Marks allotted</i> | <i>Int. Ass.</i> | <i>No. of Papers</i> | <i>Time in hrs.</i> | <i>Marks Allotted</i> | <i>Int. Ass.</i> | <i>Total Marks</i> |
| 1. | Clothing & Textile | 1 | 3 | 45 | 05 | 1 | 3 | 45 | 05 | 100 |
| Total : | | | | | | | | | | <u>100</u> |

Note : 1. Each Practical group will have 12-15 students.

SEMESTER-IV

CLOTHING & TEXTILE (THEORY)

| | |
|-------------------|---------------------------|
| Max. Marks | : 50 |
| Theory | : 45 |
| Int. Ass. | : 05 |
| Hours | : 6 Hours per week |

INSTRUCTIONS FOR THE PAPER SETTER :

The question paper will consist of five Sections : A, B, C, D and E. Sections A, B, C and D will have **two** questions from the respective sections of the syllabus and will carry 9 marks each. Section E will consist of 8 objective type questions covering the entire syllabus uniformly and will carry 9 marks.

INSTRUCTIONS FOR THE CANDIDATES :

Candidates are required to attempt one question each from the Sections A, B, C & D of the question paper and the entire section E.

SECTION-A

1. Elements of art such as colour, form, texture, shape and line
2. Principles of design such as Harmony, Balance, Rhythm, Emphasis, Proportion in relation to clothing

SECTION-B

1. Introduction to Fashion, Fad and Style.
2. Selection of suitable clothes for following age groups :
Infants, Toddlers, School going children, Adolescents, Adults, Elderly.
3. Care & Storage of garments of cotton, wool, silk.

SECTION-C

1. Bleaches- Oxidising, reducing bleaches & their suitability to different fabrics.
2. Finishing- types & importance. Different Finishes- Sizing, Desizing, Calendering, Sanforising, Mercerization, Crease resistant, Water proof & Water repellent, Flame resistant & Flame proof.

SECTION-D

1. Application of colour on fabrics
 - (a) Dyeing-Simple dyeing of cotton
 - (b) Resist-Tie, Dye and Batik
2. Printing-Block printing, screen printing, roller printing
3. Methods of Laundry/Washing.

(SEMESTER-IV)**CLOTHING & TEXTILE (PRACTICAL)**

Maximum Marks : 50
Paper : 45
Internal Assessment: 05
Time : 6 Hours per week

1. Laundry :
 - a) Testing of cotton, wool silk and nylon by burning test.
 - b) Stain Removal : Rust, Coffee, Tea, Paint, Nail Polish, Lipstick, Perfume, Blood, Boot Polish, Ink (Ball Pen), Curry and Juice.
2. Laundry & finishing of following garments :
 - * Cotton : Salwar, Kameez.
 - * Synthetic : Gathered Frock/Pleated Skirt.
 - * Woollen : Cardigan/Pullovers.
 - * Spot cleaning of a Shawl.

3. Preparation of samples of Tie and Dye & Block Printing.
4. Drafting and construction of the following garments:
 - a. Petticoat
 - b. Lady's kameez and salwar
5. Project on Care Labels of Garments or Market survey of Laundry Products.

Reference Books :

1. Singer Sewing Book, Mary Brocks Bichen, McGraw Hill Book Company, Inc., New York, Toronto, London, 1953.
2. Basic Processes & Clothing Construction, Sherie Doongaji & Raushni Deshpande, Raaj Prakashan, New Delhi (Fourth Revised edition).
3. Pattern Drafting Vol. III, Dress Making, Kamakura—Shobo Publishing Co. Ltd., Tokyo, Japan, 1972 (Fifth Edition).
4. A Manual of Children Clothing, Savitri Pandit, Orient Longmans Ltd., Bombay, 1967.
5. Practical Dress Design, Principles of Fitting and Pattern Making, Mabel D. Erwin, The Macmillan Company, New York, Ninth Printing, 1966.
6. Indian Embroidery, Its Variegated Charms, Savitri Pandit, Faculty of Home Sciences, Baroda, 1976, First Edition.
7. The Basic Book of Sewing, Eve Harlow Pub. Octopids Books Ltd., London.
8. Simple Dress Making 2, Maureen Guddsworthy Pub. Mills & Boon Ltd., London.
9. Encyclopaedia of Dress Making, Pub. Marshall Caven Dish Books Ltd., London.
10. Textile Fabrics and their Selection, Isable B. Wingate Prentice Hall, Inc., Englewood Cliffs, N.J., 1970.
11. Fundamentals of Textiles and their Care, Susheela Dantyagi, Orient Longmans, Bombay, Calcutta, Madras, New Delhi, Reprinted, 1968.
12. Household Textiles and Laundry Work, Durga Deulkar, Atma Ram & Sons, New Delhi, 1973.
13. Ideas for Fabric Printing and Dyeing Gooch, Peter H. Charles Cribner's, New York, 1974.
14. Encyclopaedia of Textiles, Fabrics, Grayson Martin, John Wiley, New York, 1984.
15. Tie-Dyed Textiles of India—Veronica Murphy & Rosemary Crill, Pub. Mapiu Publishing Pvt. Ltd., Ahmedabad.
16. Fashion and Textile Design, Neelima.
17. Printing and Washing of Textile, Neelima
18. Handbook of Fashion and Textile Designing, R. K. Sahu.
19. Traditional Embroidery of India, Shailajan D. Naik.

INTRODUCTION TO COMPUTER SCIENCE**(Additional Optional Subject)**

Note : The students with no background of Computer knowledge will opt for Module 1 while those familiar with the use of Computer system at the operating system level and application level, may opt either Module II or Module III

Course Duration for each semester: 60 hours for Theory and 60 hours for Practical

| Sr. | Paper | Name of Paper | Lectures | Max. Marks | | | Exam. | |
|-----|-------|---------------------------|----------|------------|------|------|-------|---|
| No. | | | per week | | | | Hours | |
| | | Third Semester | | | Ext. | Int. | | |
| 1 | A | Programming In C++ | 6 | | 25 | 5 | 30 | 3 |
| 2 | C | Practical on Paper – A | 6 | | - | - | 20 | 3 |
| | | Fourth Semester | | | | | | |
| 3 | B | Web Applications And Java | 6 | | 25 | 5 | 30 | 3 |
| 4 | D | Practical on Paper – B | 6 | | - | - | 20 | 3 |

THIRD SEMESTER**Paper – A****Paper Title : Programming in C++****Max. Marks : 25****Time : 3 Hrs.**

Theory : Ext. 25 + Int. 5 = 30

Practical : Ext. 20 -- = 20

Total Periods (6 Periods/week): 60

Objective: The course enables the students to get familiar with the features of Object Oriented programming language and develop programs using different concepts.

Note :

- The Question Paper will consist of Four Units.
- Examiner will set total of **NINE** questions comprising **TWO** questions from each Unit and **ONE** compulsory question of short answer type covering whole syllabi.
- The students are required to attempt **ONE** question from each Unit and the Compulsory question.
- All questions carry equal marks unless specified.

UNIT - I

- 1. Concepts of Object Oriented Programming:** Object, Class, Encapsulation, Data hiding, Inheritance, Polymorphism. Analysis and design of system using object oriented approach
- 2. Introduction to C++:** Structure of a C++ Program, Include files, Declaration of an object, main function, I/O streams.
- 3. Introduction to Classes:** Class Declaration, Data Members, Member Functions, Private and Public members, data hiding and encapsulation.

UNIT - II

- 4. Classes and Objects:** Member Function definition inside the class declaration and outside the class declaration, Scope resolution operator, Private and Public member function, Nesting of Member functions. Creating Objects, Accessing class data members, Accessing member functions, Arrays of Objects, Objects as function arguments: Pass by value, Pass by Reference, Pointers to Objects.

UNIT - III

- 5. Constructors:** Declaration and Definition, Default Constructors, Parameterized Constructors, Copy Constructors. Destructors: Definition and use
- 6. Polymorphism:** Function Overloading, Operator overloading, virtual functions.
- 7. Inheritance:** Extending Classes, Concept of inheritance, Base class, Derived class, Defining derived classes, Visibility modes: Private, Public, Protected; Single inheritance: Privately derived, Publicly derived; Making a protected member inheritable, Access Control to private and protected members by member functions of a derived class, Multilevel inheritance, Nesting of classes.

UNIT - IV

- 8. Data Structures:** Basic Concepts and notations, introduction to Complexity, Data Structure operations, applications of Data Structure ;
- 9. Arrays:** Introduction, Types of Array, Memory representation, applications and operations.
- 10. Linked List:** introduction, declaration, operations:-traversing, searching, inserting, deleting; Introduction to circular list.
- 11. Stacks:** Array representation of a stack, operations- initialization, push, pop, empty, and full; applications;
- 12. Queue:** introduction, memory representation, operations- add, remove, initialization; applications ;

REFERENCES:

| | | |
|----|----------------------|--|
| 1. | Stroustrup, Bjarne | C++ Programming Language, |
| 2. | Robert Lafore | Object Oriented Programming in Turbo C++, Galgotia Pub. |
| 3. | Balaguruswamy, E. | Object Oriented Programming with C++, TMH |
| 4. | Lipschuitz L. Seymou | Data Structure, Schaum Outline Series, TMH, New Delhi |
| 5. | Salaria, R. S | Test Your Skills in Data Structures, Khanna Book Publishing Co. (P.) Ltd., New Delhi |
| 6. | Tanenbaum | Computer Networks, Dorling Kindessley, |

Paper – C : Practical on Paper - A

Total Periods (6 Periods/week): 60

Max Marks: 20

Exam Hours: 4

Note for the Paper setter:

Paper will be set at the time of examination. Due weightage may be given to the practical note-book and assignments.

**INTRODUCTION TO COMPUTER SCIENCE
FOURTH SEMESTER**

Paper B**Paper Title: Web Applications and JAVA****Max. Marks : 25****Time : 3 Hrs.**

| | | | | |
|-----------|---|------------------|---|----|
| Theory | : | Ext. 25 + Int. 5 | = | 30 |
| Practical | : | Ext. 20 -- | = | 20 |

Total Periods (6 Periods/week): 60

Objective : To familiarize students with basic concepts of Networking, HTML, JAVA Scripts and to enable them write programs in JAVA.

Note :

- i. The Question Paper will consist of Four Units.
- ii. Examiner will set total of **NINE** questions comprising **TWO** questions from each Unit and **ONE** compulsory question of short answer type covering whole syllabi.
- iii. The students are required to attempt **ONE** question from each Unit and the Compulsory question.
- iv. All questions carry equal marks unless specified.

UNIT - I

1. **Networking:** Definition, Network hardware and Software, Network Topologies, Types and uses of Computer Networks, Brief Introduction to OSI reference model and TCP/IP reference Model. Internet, WWW, URL, Introduction to Search engines.
2. **HTML:** Introduction to HTML, Building blocks of HTML, lists, links, images, tables, frames, forms, Introduction to cascading style sheets (CSS) defining and applying CSS.

UNIT - II

3. **Java Script:** Features, tokens, data types, variables, operations, control constructs, strings arrays, functions, core language objects, client side objects, event handling. Applications related to client side form validation.
4. **Fundamentals of Java:** Java Vs. C++, Byte code, Java virtual machine, constants, variables, data types, operators, expressions, control structures, defining class, creating objects, accessing class members, constructions, method overloading.

UNIT - III

5. **Arrays, String handling Inheritance:** Basics, member access, using super to call super class constructors, creating a multi level hierarchy, method overriding, Dynamic method dispatch, using abstract classes, using Final.
6. **Packages and Interfaces:** Defining a package, understanding CLASSPATH, Access protection: Importing packages, Interfaces: Defining an Interface, Implementing. Interfaces, Applying, Interfaces, Variables in Interfaces. Exception Handling: Fundamentals, exception types, using Try and catch, Multiple Try and Catch clauses, Nested Try statements, Built – in exceptions.

UNIT - IV

7. **Multi-threaded Programming:** The Java Thread model, Thread priorities, synchronizations, messaging. The thread class and runnable Interface, The Main Thread: Creating a Thread, Implementing Runnable, Extending Thread, creating Multiple Threads, Thread Priorities; synchronizations: Methods, statements, Inter Thread communication, Deadlock, suspending, Resuming and stopping Threads
8. **Applet Programming:** Applet fundamentals: Local and remote applets, Applet Life Cycle, Creating an executable Applet, Applet tag, Adding Applet to a HTML file, Passing parameters to Applets

REFERENCES:

| | | | |
|----|-------------------|---|--|
| 1. | Liang, Daniel | : | An Introduction to Java Programming, PHI, New Delhi, Pearson |
| 2. | Balaguruswamy, E. | : | Programming with Java, A Primer, TMH, New Delhi |
| 3. | Wanger & Wyke | : | Java Script Unleashed, Pearson, New Delhi. |
| 4. | Bayross, Ivan | : | Java 2 by BPB publication |
| 5. | Bayross, Ivan | : | Html,Dhtml, javascript by BPB |
| 6 | Schildt , Herbert | : | The Complete Reference Java 2, TMH, |

Paper – D : Practical on Paper – B

Total Periods (6 Periods/week): 60

Max Marks: 20

Exam Hours: 4

Note for the Paper setter:

Paper will be set at the time of examination. Due weightage may be given to the practical note-book and assignments.



PANJAB UNIVERSITY, CHANDIGARH-160014 (INDIA)

(Estd. under the Panjab University Act VII of 1947—enacted by the Govt. of India)

SYLLABI

FOR

**B.A./B.Sc. (Honours) Course
THIRD YEAR
(SEMESTER: FIFTH AND SIXTH)
Examination, 2023-24**

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| 18 | Public Administration | 82 |
| 19 | Ancient Indian History, Culture & Archaeology | 93 |
| 20 | Police Administration | 100 |
| 21 | Music (Vocal and Instrumental) | 105 |
| 22 | Home Science (Kept in Abeyance) | 111 |
| 23 | Physics | 112 |
| 24 | Chemistry | 117 |
| 25 | Botany | 125 |
| 26 | Zoology | 139 |
| 27. | Music (Indian Classical Dance) | 145 |

**OUTLINES OF TESTS, SYLLABI AND COURSES OF READING IN THE
HONOURS SUBJECTS OF THE B.A./B.Sc. THIRD YEAR FOR THE
EXAMINATION, 2023-24**

**ENGLISH
SEMESTER V**

PAPER : 20th Century Literature

| | | |
|--------------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 03 Hours |
| Teaching Hours per week: | | 06 |

Texts :

1. G.B. Shaw : *Arms and the Man.*
2. George Orwell : *Nineteen Eighty Four.*
3. D. H. Lawrence : *The Rainbow.*
4. W.B. Yeats : (i) *Among school Children*
(ii) *The Second coming*
(iii) *Lake of Isle Innisfree*

Testing :

There will be **Two Units.**

Unit I will consist of two compulsory questions.

Unit II will consist of four questions (with internal choice). The students will attempt any three

Unit I

There will be one question on the literary movement of 20th Century with internal choice

(15 marks)

There will be one question with reference to the context from writers at Serial No. 1 and 4. Two passages will be set from each writer with internal choice. Students will attempt one passage from each writer.

(15 Marks)

Unit II

There will be two essay type questions with internal choice on each of the four writers' texts. Students will attempt three questions from three different writers.

(20 × 3 = 60 marks)

ENGLISH
SEMESTER VI

PAPER : INDIAN WRITING IN ENGLISH

Max. Marks : 100
Theory : 90 marks
Internal Assessment : 10 marks
Time : 03 Hours
Teaching Hours per week : 06

Texts :

- | | | | | |
|----|----------------|--|---|----------------------------------|
| 1. | Tagore | : (i) <i>The Joureny</i> (ii) <i>Sea Shore.</i> (iii) <i>Maya</i> | } | <i>Selection from Geetanjali</i> |
| 2. | Mulk Raj Anand | : <i>Coolie.</i> | | |
| 3. | R.K. Narayan | : <i>The Vender of Sweets</i> | | |
| 4. | Kamla Dass | : (i) <i>An Introduction</i> (ii) <i>Forest Fire</i> (iii) <i>The Freaks</i> (iv) <i>My Grandmother's House</i> | | |

Testing :

1. There will be one question with reference to context. Two stanzas with internal choice will be set from Tagore and Kamla Dass. Students will attempt one stanza from each Poet.. (10 marks)
2. Four questions (one on each author) of 20 marks each will internal choice. (20 × 4 = 80 marks)

B.A./B.Sc. (Sanskrit Honours) Third Year Syllabus**बी.ए. (संस्कृत आनर्स) तृतीय वर्ष परीक्षा 2023-24****SEMESTER-V**

तृतीय पत्र :

पूर्णांक: 90+10 = 100 अंक

(आन्तरिक परीक्षा- 10

लिखित परीक्षा- 90)

समय : 3 घण्टे

उद्देश्य:-

विद्यार्थियों को काव्य के स्वरूप, प्रयोजन इत्यादि से अवगत करना । इसी के साथ ही पाणिनीय सूत्रों के माध्यम से कारक तथा स्त्री प्रत्ययों के अध्ययनोपरान्त संस्कृत लेखन के प्रति उत्साहित करना ।

UNIT-I

(क) साहित्यदर्पण-प्रथम परिच्छेद 40 अंक

UNIT-II

(ख) लघुसिद्धान्तकौमुदी- 30 अंक

(i) विभक्त्यर्थ (कारक-प्रकरण) 15 अंक

(ii) स्त्री-प्रत्यय 15 अंक

UNIT-III

(ग) संस्कृत में निबन्ध (इन विषयों पर- संस्कृतभाषा, परोपकारः, गीता, वेदानां महत्त्वम्, आदर्श-छात्रः)। 20 अंक

नोट - पत्र का अध्यापन समय-नौ पीरियड (प्रति घण्टा) प्रति सप्ताह होगा ।

B.A./B.Sc. (Sanskrit Honours) Third Year Syllabus**बी.ए. (संस्कृत आनर्स) तृतीय वर्ष परीक्षा 2023-24****SEMESTER-VI****चतुर्थ प्रश्न -पत्र:**

पूर्णांक: 90+10 = 100 अंक

(आन्तरिक परीक्षा- 10

लिखित परीक्षा- 90)

समय : 3 घण्टे

उद्देश्य:-

उपनिषद् प्रतिपादित नचिकेता एवं यम के संवाद द्वारा विद्यार्थियों को रहस्यमय परमतत्त्व से परिचित कराना, इसके अतिरिक्त चतुर्वेद, ब्राह्मण तथा उपनिषद् ग्रन्थों के विषय-वस्तु का अध्ययन करवाना।

UNIT-I

(क) उपनिषद्-साहित्य

60 अंक

(i) कठोपनिषद्-(प्रथम अध्याय) अनुवाद एवं व्याख्या (6 में से 4 सन्दर्भ) $4 \times 10 = 40$ अंक(ii) कठोपनिषद् से सम्बद्ध प्रश्न (2 में से 1 का उत्तर) $1 \times 20 = 20$ अंक**UNIT-II**

(ख) वैदिक साहित्य का इतिहास

30 अंक

1. संहिताएँ 2. ब्राह्मणग्रन्थ 3. उपनिषद् $2 \times 15 = 30$ अंक

(विषय वस्तु से सम्बन्धित चार में से दो के उत्तर पूछे जायेंगे) ।

नोट - पत्र का अध्यापन समय नौ पीरियड (प्रति घण्टा) प्रति सप्ताह होगा ।

Books Recommended :

1. Sanskrit Drama : A.B. Keith.
2. Classical Sanskrit literature : A.B. Keith.
3. A History of Sanskrit Literature : A.A. Macdone.
4. A History of Indian Literature, Vol. I : M. Vintenitz
5. History of Sanskrit Literature by V. Varadachari.
6. संस्कृत साहित्य का इतिहास : बलदेव उपाध्याय
7. वैदिक साहित्य और संस्कृति : बलदेव उपाध्याय
8. संस्कृत वाङ्मय का इतिहास : वाचस्पति गैरोला
9. संस्कृत साहित्य की रूपरेखा : चन्द्रशेखर पाण्डेय

Note : All books are available at the Chaukhamba Sanskrit Series, Chaukhamba, Varanasi and Motilal Banarasidas, Jawahar Nagar, Bungalow Road, Delhi.

PERSIAN

B.A. (HONOURS) THIRD YEAR EXAMINATION, 2023-24

SEMESTER V

PAPER-III : HISTORY OF PERSIAN LITERATURE

SAFIVID PERIOD

100 Marks

Time : 3 Hrs.

Books Recommended:

1. History of Persian Literature by Dr. Razazadeh Shafaq.
2. History of Persian Literature by Dr. Brown Vol. III.

PERSIAN
B.A.(HONOURS) THIRD YEAR EXAMINATION, 2023-24
SEMESTER-VI

Paper-IV MODERN PERSIAN

100 Marks
 Time : 3 Hrs

1. PROSE:

- (i) The following three short stories of Saeed-Nafisi
- (a) Azan-E-Maghrib
 - (b) Khana-Ye-Pidari.
 - (c) Janayat-E-Man
- (ii) The following three short stories of Mohammed Heijazi:
- (a) Khud Khusi.
 - (b) Eedi.
 - (c) Mah-e-man

Book Prescribed:

Nasib-Jadid-e-farsi, jayyed Press, Ballimaran, Delhi-6

2. POETRY:

Quasidan

1. Namund Namah by Bahar.
 "Dar Sher Band Mehro-Wafa Dilbari Namund."
2. Ghazalliyat-E-Parveen Etisami by Mehdi Hameedi.
3. Qataat by Mehdi Hameedi.

Books Recommended:

1. Barguzida-Ye-She'r-e-Farsi-Ye-Mu' aasir Part-I by Dr. Muneeb-al-Rehaman.
2. Edara-ye-Ulam-e-Islami, Danish gah-e-Islami, Aligarh.

ARABIC

B.A. (HONOURS) THIRD YEAR (SEMESTER SYSTEM) EXAMINATION, 2023-24
(Kept in Abeyance)

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FRENCH**SEMESTER V****5th Semester: FRENCH LITERATURE**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hrs. |

INTRODUCTION TO HISTORY OF FRENCH LITERATURE 17th -18thCENTURY

Questions should be asked strictly from the prescribed text book.

- | | | |
|----|--|----------|
| 1. | Five questions of 8 marks each based on History of French Literature | 40 Marks |
| 2. | Fill in the blanks or multiple-choice questions on History of literature with maximum of 2 marks each. | 20 Marks |

Poetry : Explanation, central idea, critical appreciation of poems 30 Marks

1. L'amour et la folie (La Fontaine)
2. Le laboureur et ses enfants (La Fontaine)
3. Le lion et le rat (La Fontaine)
4. Le chêne et le Roseau (La Fontaine)
5. La Jeune veuve (La Fontaine)

Courses of Reading:

Mémento de Littérature française, by Hélène, Publication Hatier, Profil Littérature. Only from 17-18 centuries to be studied.

- Note: 1. The latest syllabus should be followed.
2. Choice should be given in questions.

Reference Books :

1. Collection littéraire- Moyen age-20eme siècle-Lagarde et Michard, Bordas.
2. Recueil de Textes littéraires français. Moyen Age-20eme siècle-Chassang et Senninger.
3. Moyen age-20eme siècle-Castex et. P. Surer, Hachette.

For the information of private candidates:

1. The theory paper would be proportionately marked out of 100 as there is no internal assessment.

FRENCH**6th Semester: HISTORY OF LITERATURE, POETRY & VIVA-VOCE**

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 70 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hours |
| Viva-Voce | : 20 Marks |

History of literature 19th & 20th Centuries:

Introduction to the History of French Literature 19th & 20th centuries.

Five questions of 8 marks each based on History of French Literature 40 Marks

Poetry: 30 Marks

Explanation, resume, central idea, critical appreciation of the poems

1. Les feuilles mortes (Jacques Prévert)
2. Chant d'automne (Baudelaire)
3. L'homme et la mer (Baudelaire)
4. Paysage (Baudelaire)
5. L'albatros (Baudelaire)

Viva-Voce : 20 Marks

1. Dictation of an unseen passage of about 200 words. 10 Marks
2. Oral questions based on the dictation passage and also general questions 10 Marks

Note: Questions in all the papers shall be asked and answered in French only.

For the information of private candidates:

1. Viva is compulsory
2. The theory paper would be proportionately marked out of 80 as there is no internal assessment.

HINDI
(B.A. HONS. 3rd YEAR 5th SEMESTER 2023-24)

PAPER-III (A)

तृतीय पाठ्यचर्या

पूर्णांक - 90 + 10 = 100

समय - तीन घंटे

1. कहानियाँ : आधार चयन-भीष्म साहनी, आधार पब्लिकेशन, पंचकूला ।
2. संस्मरण : अतीत के चलचित्र - महादेवी वर्मा, राघकृष्ण प्रकाशन, नई दिल्ली ।
 - (क) प्रस्तुत दोनों कृतियों में से 10/10 अंकों के 4 व्याख्यांश पूछे जाएंगे ।
छात्रों को केवल दो की संदर्भ एवं काव्य-सौन्दर्य सहित व्याख्या करनी होगी ।
10+10=20
 - (ख) दोनों कृतियों में से 4 समीक्षात्मक प्रश्न पूछे जाएंगे । जिनमें से छात्रों को
15-15 अंको के दो प्रश्नों के उत्तर देने होंगे । 15+15=30

(प्रत्येक कृति में से एक प्रश्न अवश्य करना होगा)
(चरित्र, मूल संवेदना, तात्त्विक समीक्षा, उद्देश्य, भाषा-शैली)
3. काव्यशास्त्र अंक-30
 - (क) शब्द शक्तियाँ - परिभाषा और उदाहरण
 - (ख) बिम्ब - परिभाषा एवं स्वरूप
 - (ग) रस - परिचय, प्रकार, लक्षण और उदाहरण
 - (घ) प्रतीक - परिभाषा एवं स्वरूप

खंड तीन से संबंधित चारों उपखंडों (क ख ग घ) में से कुल मिलाकर 20-20 अंकों के चार प्रश्न पूछे जाएंगे जिनमें से छात्रों को किन्हीं दो के उत्तर देने होंगे ।

4. दो-दो अंकों के 5 वस्तुनिष्ठ प्रश्न करने होंगे ।
8 प्रश्न पूछे जाएंगे । 5x2=10
5. आंतरिक मूल्यांकन - अंक-10

सहायक पुस्तकें :

- 1 अन्धा युग : एक विवेचन, डॉ० हरीशचन्द्र वर्मा. नव भारती शंकर प्रतिष्ठान, नई दिल्ली
- 2 हिन्दी कहानी अन्तरंग परिचय : रामदरश मिश्र, नेशनल पब्लिकेशन, नई दिल्ली ।
- 3 हिन्दी कहानी अपनी जुबानी : डॉ० इन्द्रनाथ मदान, संभावना पब्लिकेशन, हापुड़ ।

HINDI**(B.A. HONS. 3rd YEAR 6th SEMESTER 2023-24)****PAPER-IV (B)****चतुर्थ पाठ्यचर्या**

पूर्णांक-90+10=100

समय - तीन घंटे

1. काव्य-नाटक : एक कण्ठ विषयायी-दुष्यंत कुमार, लोकभारती
 (क) इस कृति में से 10-10 अंकों के दो व्याख्यांश पूछे जाएंगे,
 इनमें से एक करना होगा ।
 (ख) इस कृति में से 16-16 अंकों के दो समीक्षात्मक प्रश्न पूछे जाएंगे,
 इनमें से एक करना होगा । अंक-26
2. छंद : भुजंगप्रयात, मालिनी, मंदाक्रान्ता, शिखरिणी, अहीर
 मनव, बरवै । अंक-20
3. अंलकार : अन्योक्ति, तुल्योगिता, उल्लेख, व्याजस्तुति,
 अनन्वय, विभावना अंक-20
 (छात्रों को पाँच-पाँच अंकों के 4 छंदों और पाँच-पाँच अंकों के चार अलंकारों के लक्षण तथा उदाहरण लिखने होंगे । प्राश्निक को दुगना विकल्प देना होगा)
4. भाषा : अंक-24
 (i) हिन्दी की प्रमुख बोलियां-क्षेत्र और विशेषताएं
 विशेषतः ब्रज, अवधी का परिचय

(ii) मानक हिन्दी की संरचना-शब्द संरचना, रूप-संरचना
वाक्य संरचना

(iii) क. राजभाषा हिन्दी का परिचय तथा वर्तमानस्थिति ।
ख. देवनागरी लिपि का अनुमोदित मानक रूप ।

विशेष : खंड 4 में से 15-15 अंकों के कुल चार प्रश्न पूछे जाएंगे । जिनमें से छात्रों को दो के उत्तर देने होंगे ।

5. आंतरिक मूल्यांकन :

अंक-10

सहायक पुस्तकें :-

1. अन्धा युग : पथ और प्रदर्शन, जयदेव तनेजा, वाणी प्रकाशन, नई दिल्ली ।
2. अन्धा युग और भारती के अन्य नाट्य प्रयोग : जयदेव तनेजा, नचिकेता प्रकाशन, नई दिल्ली ।
3. काव्य के तत्त्व : आचार्य देवेन्द्रनाथ शर्मा, लोकभारती प्रकाशन, इलाहाबाद ।

ਪੰਜਾਬੀ (ਆਨਰਜ਼)**ਬੀ.ਏ. ਭਾਗ ਤੀਜਾ (ਸਮੈਸਟਰ ਪੰਜਵਾਂ)**

ਕੁਲ ਅੰਕ:100

ਪੇਪਰ ਤੀਜਾ

ਲਿਖਤੀ: 90

ਦਸੰਬਰ 2023 ਦੇ ਇਮਤਿਹਾਨ ਲਈ।

ਇੰਟਰਨਲ

ਅਸੈਸਮੈਂਟ:10

ਸਮਾਂ: 3 ਘੰਟੇ

ਕਾਵਿ-ਸ਼ਾਸਤਰ, ਯੂਨਾਨੀ ਕਾਵਿ- ਸ਼ਾਸਤਰ, ਭਾਰਤੀ ਕਾਵਿ- ਸ਼ਾਸਤਰ ਤੇ ਸਹਿਤ ਦੇ ਸੰਕਲਪ**(ਭਾਗ ਪਹਿਲਾ)**

1. (i) ਕਾਵਿ -ਸ਼ਾਸਤਰ: ਪਰਿਭਾਸ਼ਾ, ਕਾਵਿ ਦੀ ਪ੍ਰਕਿਰਤੀ, ਕਾਵਿ ਦੀ ਆਤਮਾ ਤੇ ਤੱਤ
(ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ) 15 ਅੰਕ
2. ਯੂਨਾਨੀ ਕਾਵਿ- ਸ਼ਾਸਤਰ : ਅਨੁਕਰਨ ਦਾ ਸਿਧਾਂਤ, ਵਿਰੋਚਨ, ਦੁਖਾਂਤ, ਸੁਖਾਂਤ ਤੇ ਉੱਦਾਤ
(ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ) 15 ਅੰਕ
3. ਭਾਰਤੀ ਕਾਵਿ -ਸ਼ਾਸਤਰ:
ਪੁਨੀ ਸੰਪਰਦਾਇ, ਰਸ ਸੰਪਰਦਾਇ, ਅਲੰਕਾਰ ਸੰਪਰਦਾਇ, ਵਕਰੋਕਤੀ ਸੰਪਰਦਾਇ
(ਤਿੰਨ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਦੋ ਪ੍ਰਸ਼ਨ ਕਰਨੇ) 10+10= 20 ਅੰਕ

(ਭਾਗ ਦੂਜਾ)

4. ਸਾਹਿਤ ਦੇ ਸੰਕਲਪ:
(i) ਸਹਿਤ ਤੇ ਜੀਵਨ (ii) ਸਾਹਿਤ ਤੇ ਸਮਾਜ (iii) ਸਾਹਿਤ ਤੇ ਵਿਚਾਰਧਾਰਾ (iv) ਸਾਹਿਤ ਤੇ ਪ੍ਰਤਿਬੱਧਤਾ
(v) ਸਾਹਿਤ ਤੇ ਚਿੰਤਨ (vi) ਸਾਹਿਤ ਤੇ ਪ੍ਰਚਾਰ
(ਤਿੰਨ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਦੋ ਪ੍ਰਸ਼ਨ ਕਰਨੇ) 10+10=20 ਅੰਕ

(ਭਾਗ ਤੀਜਾ)

5. ਸਮੁੱਚੇ ਸਿਲੇਬਸ ਵਿਚੋਂ ਲਘੂ ਪ੍ਰਸ਼ਨ ਉੱਤਰ (ਜਵਾਬ 50 ਸ਼ਬਦਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ)
(ਪੰਦਰਾਂ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਦਸ ਪ੍ਰਸ਼ਨ ਕਰਨੇ) 10x2=20 ਅੰਕ

ਨੋਟ: ਪੇਪਰ ਸੈਂਟਰ ਲਈ ਜ਼ਰੂਰੀ ਹਦਾਇਤਾਂ:

1. ਲਘੂ ਉੱਤਰਾਂ ਵਾਲਾ ਪ੍ਰਸ਼ਨ ਵਿਦਿਆਰਥੀਆਂ ਲਈ ਲਾਜ਼ਮੀ ਹੈ।
2. ਲਘੂ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ ਸਮੁੱਚੇ ਸਿਲੇਬਸ ਦੇ ਆਧਾਰ 'ਤੇ ਹੀ ਪੁੱਛੇ ਜਾਣ।

ਸਹਾਇਕ ਪੁਸਤਕਾਂ:

1. ਅਤਰ ਸਿੰਘ, ਸਮਦਰਸ਼ਨ, ਰਘਬੀਰ ਰਚਨਾ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ੍ਹ।
2. ਅਤਰ ਸਿੰਘ, ਦ੍ਰਿਸ਼ਟੀਕੋਣ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
3. ਸੰਤ ਸਿੰਘ ਸੇਖੋਂ, ਸਾਹਿਤਿਆਰਥ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
4. ਡਾ. ਸੁਰਜੀਤ ਸਿੰਘ ਭੱਟੀ, ਵਾਦ ਚਿੰਤਨ, ਚੇਤਨਾ ਪ੍ਰਕਾਸ਼ਨ, ਲੁਧਿਆਣਾ।
5. ਡਾ. ਸੁਰਜੀਤ ਸਿੰਘ ਭੱਟੀ, ਮਾਰਕਸਵਾਦੀ ਪੰਜਾਬੀ ਆਲੋਚਨਾ, ਚੇਤਨਾ ਪ੍ਰਕਾਸ਼ਨ, ਲੁਧਿਆਣਾ।
6. ਪ੍ਰੋ. ਬ੍ਰਹਮਜਗਦੀਸ਼ ਸਿੰਘ, ਸਮਾਲੋਚਨਾ ਸ਼ਾਸਤਰ(ਪੱਛਮੀ, ਭਾਰਤੀ ਤੇ ਪੰਜਾਬੀ ਆਲੋਚਨਾ), ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਊਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।
7. ਡਾ. ਰੋਸ਼ਨ ਲਾਲ ਅਹੂਜਾ, ਸਾਹਿੱਤ ਸ਼ਾਸਤਰ, ਲਾਹੌਰ ਬੁਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
8. ਸੁਖਦੇਵ ਸਿੰਘ, ਡਾ.(ਸੰਪਾ.), ਮਾਰਕਸਵਾਦੀ ਸਾਹਿੱਤ ਚਿੰਤਨ:ਸਮਕਾਲੀ ਸਰੋਕਾਰ, ਪੰਜਾਬੀ ਸਾਹਿੱਤ ਅਕਾਡਮੀ, ਲੁਧਿਆਣਾ।
9. ਹਰਿਭਜਨ ਸਿੰਘ, ਰਚਨਾ ਸੰਰਚਨਾ, ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
10. ਗੋਪੀ ਚੰਦ ਨਾਰੰਗ, ਸੰਰਚਨਾਵਾਦ,ਉੱਤਰ ਸੰਰਚਨਾਵਾਦ ਅਤੇ ਪੂਰਬੀ ਕਾਵਿ ਸ਼ਾਸਤਰ, ਭਾਰਤੀ ਸਾਹਿੱਤ ਅਕਾਦਮੀ, ਦਿੱਲੀ।
11. ਰਤਨ ਸਿੰਘ ਜੱਗੀ, ਸਾਹਿੱਤਿਕ ਵਾਦ ਅੰਕ(ਭਾਗ ਪਹਿਲਾ), ਸੰਪਾ., ਪ੍ਰੋ. ਰਤਨ ਸਿੰਘ ਜੱਗੀ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
12. ਪ੍ਰੋਮ ਪ੍ਰਕਾਸ਼ ਸਿੰਘ, ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
13. ਡਾ. ਰਾਜਿੰਦਰ ਸਿੰਘ ਸੇਖੋਂ, ਆਲੋਚਨਾ ਤੇ ਪੰਜਾਬੀ ਆਲੋਚਨਾ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
14. ਡਾ. ਰਾਜਿੰਦਰ ਸਿੰਘ, ਪੰਜਾਬੀ ਸਾਹਿੱਤ ਦਾ ਨਵੀਨ ਇਤਿਹਾਸ (ਆਦਿ ਕਾਲ ਤੋਂ ਸਮਕਾਲ ਤੱਕ), ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
15. ਡਾ. ਜੀਤ ਸਿੰਘ ਜੋਸ਼ੀ, ਪੰਜਾਬੀ ਅਧਿਐਨ ਤੇ ਅਧਿਆਪਨ: ਬਦਲਦੇ ਪਰਿਪੇਖ, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਊਂਡੇਸ਼ਨ, 42- ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਨਗਰ, ਡਾਕਖਾਨਾ ਖਾਲਸਾ ਕਾਲਜ, ਅੰਮ੍ਰਿਤਸਰ।
16. ਡਾ. ਸਤਨਾਮ ਸਿੰਘ, ਪੰਜਾਬੀ ਆਲੋਚਨਾ ਸਰੂਪ ਤੇ ਸੰਭਾਵਨਾਵਾਂ, ਮਦਾਨ ਪਬਲੀਸ਼ਰਜ਼, ਪਟਿਆਲਾ।
17. ਸੁਖਦੇਵ ਸ਼ਰਮਾ (ਪ੍ਰੋ.), ਭਾਰਤੀ ਕਾਵਿ- ਸ਼ਾਸਤਰ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 2017

ਪੰਜਾਬੀ (ਆਨਰਜ਼)

ਬੀ.ਏ. ਭਾਗ ਤੀਜਾ (ਸਮੈਸਟਰ ਛੇਵਾਂ)

ਕੁਲ ਅੰਕ:100

ਪੇਪਰ ਚੌਥਾ

ਲਿਖਤੀ: 90

ਮਈ 2024 ਦੇ ਇਮਤਿਹਾਨ ਲਈ

ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ:10

ਸਮਾਂ: 3 ਘੰਟੇ

ਆਲੋਚਨਾ, ਪੱਛਮੀ ਆਲੋਚਨਾ, ਪੰਜਾਬੀ ਆਲੋਚਨਾ, ਲੋਕਧਾਰਾ ਤੇ ਸਭਿਆਚਾਰ।

(ਭਾਗ ਪਹਿਲਾ)

1. ਆਲੋਚਨਾ: ਪਰਿਭਾਸ਼ਾ, ਆਲੋਚਨਾ ਦੇ ਆਧਾਰ ਤੇ ਉਦੇਸ਼
(ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ) 15 ਅੰਕ
2. ਪੱਛਮੀ ਆਲੋਚਨਾ ਪ੍ਰਣਾਲੀਆਂ:
ਰੂਪਵਾਦ , ਮਾਰਕਸਵਾਦ ਤੇ ਸੰਰਚਨਾਵਾਦ
(ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ) 15 ਅੰਕ

(ਭਾਗ ਦੂਜਾ)

3. (i) ਪੰਜਾਬੀ ਆਲੋਚਨਾ ਦਾ ਆਰੰਭ ਤੇ ਵਿਕਾਸ
(ii) ਪੰਜਾਬੀ ਰੂਪਵਾਦੀ , ਮਾਰਕਸਵਾਦੀ ਤੇ ਸੰਰਚਨਾਵਾਦੀ ਆਲੋਚਨਾ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ
(ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ) 20 ਅੰਕ

(ਭਾਗ ਤੀਜਾ)

4. (i) ਲੋਕਧਾਰਾ: ਪਰਿਭਾਸ਼ਾ, ਪ੍ਰਕਿਰਤੀ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ
(ii) ਸਭਿਆਚਾਰ : ਪਰਿਭਾਸ਼ਾ, ਪ੍ਰਕਿਰਤੀ ਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ
ਲੋਕਧਾਰਾ ਅਤੇ ਸਭਿਆਚਾਰ ਦਾ ਅੰਤਰ ਨਿਖੇੜ
(ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਦੋ ਪ੍ਰਸ਼ਨ ਕਰਨੇ) 10 ਅੰਕ
5. ਲੋਕਧਾਰਾ ਦੀਆਂ ਵਿਭਿੰਨ ਪ੍ਰਗਟਾਅ ਵਿਧੀਆਂ:
ਲੋਕ ਗੀਤ, ਲੋਕ ਕਹਾਣੀ, ਲੋਕ ਕਲਾਵਾਂ ਅਤੇ ਲੋਕ ਨਾਚ
(ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ) 10 ਅੰਕ

(ਭਾਗ ਚੌਥਾ)

6. ਸਮੁੱਚੇ ਸਿਲੇਬਸ ਵਿਚੋਂ ਲਘੂ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਜਵਾਬ 50 ਸ਼ਬਦਾਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ)
(ਪੰਦਰਾਂ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਦਸ ਪ੍ਰਸ਼ਨ ਕਰਨੇ) 10x2=20

ਨੋਟ: ਪੇਪਰ ਸੈਂਟਰ ਲਈ ਲਾਜ਼ਮੀ ਹਦਾਇਤਾਂ:

1. ਲਘੂ ਉੱਤਰਾਂ ਵਾਲਾ ਪ੍ਰਸ਼ਨ ਵਿਦਿਆਰਥੀਆਂ ਲਈ ਲਾਜ਼ਮੀ ਹੈ।
2. ਲਘੂ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ ਸਮੁੱਚੇ ਸਿਲੇਬਸ ਦੇ ਆਧਾਰ 'ਤੇ ਹੀ ਪੁੱਛੇ ਜਾਣ।

ਸਹਾਇਕ ਪੁਸਤਕਾਂ:

1. ਨਗੋਂਦਰ , ਅਰਸਤੂ ਦਾ ਕਾਵਿ-ਸ਼ਾਸਤਰ, (ਅਨੁ.ਡਾ. ਹਰਿਭਜਨ ਸਿੰਘ) ਐਸ.ਚਾਂਦ ਐਂਡ ਕੰਪਨੀ, ਦਿੱਲੀ।
2. ਕਰਨੈਲ ਸਿੰਘ ਬਿੰਦ(ਸੰਪਾ.), ਸਹਿਤ ਅਧਿਐਨ ਪ੍ਰਣਾਲੀਆਂ, ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
3. ਪ੍ਰੇਮ ਪ੍ਰਕਾਸ਼ ਸਿੰਘ, ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
4. ਭਰਤਮੁਨੀ, ਨਾਟਯ-ਸ਼ਾਸਤਰ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
5. ਲੌਜਾਈਨਸ, ਉੱਦਾਤ ਬਾਰੇ, (ਪੰਜਾਬੀ ਅਨੁ: ਹਰਿਭਜਨ ਸਿੰਘ), ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
6. ਡਾ. ਗੁਰਚਰਨ ਸਿੰਘ ਅਰਸ਼ੀ, ਲੌਜਾਈਨਸ ਦਾ ਕਾਵਿ ਸਿਧਾਂਤ, ਆਰਸੀ ਪਬਲਿਸ਼ਰਜ਼, ਦਿੱਲੀ।
7. ਡਾ. ਗੁਰਦੇਵ ਸਿੰਘ, ਪੱਛਮੀ ਤੇ ਭਾਰਤੀ ਸਾਹਿਤ ਦੇ ਮੁਖ ਸਿਧਾਂਤ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।
8. ਗੁਰਬਖਸ਼ ਸਿੰਘ ਫਰੈਂਕ, ਸਭਿਆਚਾਰ ਤੇ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ-ਮੁਢਲੀ ਜਾਣ-ਪਛਾਣ, ਪੰਜਾਬੀ ਰਾਈਟਰਜ਼ ਕੋਆਪਰੇਟਿਵ ਸੁਸਾਇਟੀ ਲਿਮਟਿਡ, ਲੁਧਿਆਣਾ।
9. ਡਾ. ਨਾਹਰ ਸਿੰਘ, ਲੋਕ ਕਾਵਿ ਦੀ ਸਿਰਜਣ ਪ੍ਰਕ੍ਰਿਆ, ਲੋਕਗੀਤ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ੍ਹ।
10. ਜਸਵਿੰਦਰ ਸਿੰਘ, ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਪਛਾਣ ਚਿੰਨ੍ਹ, ਗਰੇਸ਼ੀਅਸ ਪ੍ਰਕਾਸ਼ਨ, ਪਟਿਆਲਾ।
11. ਟੀ.ਆਰ .ਵਿਨੋਦ, ਸੰਸਕ੍ਰਿਤੀ: ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ, ਲੋਕਗੀਤ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ੍ਹ।
12. ਮਨਜੀਤ ਸਿੰਘ, ਪਿੰਡ ਵਿਉਂਤ ਤੇ ਸਭਿਆਚਾਰ, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਊਂਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।
13. ਗਿਆਨੀ ਗਰਦਿਤ ਸਿੰਘ, ਮੇਰਾ ਪਿੰਡ, ਸਾਹਿਤ ਸਦਨ, ਚੰਡੀਗੜ੍ਹ।
14. ਡਾ. ਜੀਤ ਸਿੰਘ ਜੋਸ਼ੀ, ਪੰਜਾਬੀ ਅਧਿਐਨ ਤੇ ਅਧਿਆਪਨ: ਬਦਲਦੇ ਪਰਿਪੇਖ, ਵਾਰਿਸ ਸ਼ਾਹ ਫਾਊਂਡੇਸ਼ਨ, 42- ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਨਗਰ, ਡਾਕਖਾਨਾ ਖਾਲਸਾ ਕਾਲਜ, ਅੰਮ੍ਰਿਤਸਰ
15. ਡਾ. ਭੁਪਿੰਦਰ ਸਿੰਘ ਖਹਿਰਾ, ਲੋਕਧਾਰਾ, ਭਾਸ਼ਾ ਤੇ ਸਭਿਆਚਾਰ, ਪੈਪਸੂ ਬੁੱਕ ਸ਼ਾਪ, ਪਟਿਆਲਾ।
16. ਡਾ. ਜੀਤ ਸਿੰਘ ਜੋਸ਼ੀ, ਸਭਿਆਚਾਰ ਅਤੇ ਲੋਕਧਾਰਾ ਦੇ ਮੂਲ ਸਰੋਕਾਰ, ਲਾਹੌਰ ਬੁੱਕ ਸ਼ਾਪ, ਲੁਧਿਆਣਾ।

URDU
SEMESTER V

Theory : 90 Marks
Internal Assesment : 10 Marks
Time : 3 Hours

Paper- I Novelette

Unit-I

Novelette-‘ Dilruba’ Ka tanqidi Jayeza 25 marks

Unit-II

Plot aur Character 20 marks

Unit-III

‘Agle Janam Mohe Bitiya na Kijo’ ka tanqidi jayeza 25 marks

Unit –IV

Plot aur character 20 marks

Books Prescribed:-

1. ‘ Char Novelette’by Qurrat-ul-ain Hyder,Educational Book House,Aligarh.
2. ‘Beesveen Sadi mein Urdu Novel’ by Dr. Usuf Sarmast, Education Book House, Aligarh.

URDU
SEMESTER VI

Theory : 90 Marks
Internal Assesment : 10 Marks
Time : 3 Hours

Paper- II Novelette

Unit-I

Ismat Chughtai Ka Novelette 'Ziddi' Ka Plot 25 marks

Unit-II

Character 20 marks

Unit-III

Critical notes on Ismat Chughtai ki novel nigari ki khususiaat 25 marks

Unit –IV

Ismat Chughtai ki life history 20 marks

Books Prescribed:-

1. Novelette'Ziddi' by Ismat Chughtai, Education Book House, Aligarh
2. 'Beesveen Sadi mein Urdu Novel' by Dr. Usuf Sarmast, Education Book House, Aligarh.

GERMAN
SEMESTER V

Summary

Max. Marks: 100 marks (Total)
Paper-1 (Theory): 90 marks
Internal Assessment: 10 marks

Paper – 1 (Theory): 90 marks (Total)

Time: 3 hours

Note: Use of dictionary is allowed

- i. Three out of five questions to be attempted on the history of German literature (Literaturgeschichte) : 90 marks
Following movements in literature are to be studied:

- i. Aufklärung
- ii. Sturm und Drang.

Internal Assessment : 10 marks (Total)

- Continuous Evaluation
- Attendance

Note:

1. The mode of evaluation for internal assessment is to be followed as per University guidelines.
2. For private candidates, Internal Assessment will be calculated proportionately to the marks obtained by the candidate in written examination

Prescribed Textbooks:

- i. Geschichte der deutschen Dichtung, Fricke/Klotz.
- ii. Wege der deutschen Literatur - Eine geschichtliche Darstellung by Arno Lubos, Jakob Lehmann, Hermann Glaser.

Supplementary book:

- i. Deutsche Literaturgeschichte - Von Anfängen bis zur Gegenwart (J.B. Metzler Verlag Stuttgart)

GERMAN

Summary

Max. Marks: 100 marks (Total)
Paper-2 (Theory): 90 marks
Internal Assessment: 10 marks

Paper - 2 Essay and Translation (Theory): 90 marks

Time: 3 hours

Note: Use of dictionary is allowed

- i. Translation of an unseen text/s from German into English : 50 marks
- ii. Translation of an unseen text/s from English into German : 20 marks
- iii. Essay writing in German (about 250 words) : 20 marks
 - i. Länder und Leute
 - ii. Ausbildung und Berufswege (Indien / Deutschland)
 - iii. Politik (Indien / Deutschland / Europa / Welt)
 - iv. Umzug und Einrichtung

Internal Assessment : 10 marks (Total)

- Continuous Evaluation
- Attendance

Note:

1. The mode of evaluation for internal assessment is to be followed as per University guidelines.
2. For private candidates, Internal Assessment will be calculated proportionately to the marks obtained by the candidate in written examination

Prescribed Textbooks:

- i. Deutsche Texte zum Übersetzen (Hueber Verlag)

Supplementary book:

- i. "Lagune-2" Kursbuch by Hartmut Aufderstraße a.o.

GERMAN SEMESTER VI

Summary

Max. Marks: 100 marks (Total)
Written Paper (Theory): 90 marks
Internal Assessment: 10 marks

Written Paper (Theory): 90 marks (Total)

Time: 3 hours

Note: Use of dictionary is allowed

Three out of five questions to be attempted on the history of German literature (Literaturgeschichte) : 90 marks

Following movements in literature are to be studied:

- i. Klassik
- ii. Romantik

Internal Assessment : 10 marks (Total)

- Continuous Evaluation
- Attendance

Note: 1. The mode of evaluation for internal assessment is to be followed as per University guidelines.

2. For private candidates, Internal Assessment will be calculated proportionately to the marks obtained by the candidate in written examination

Prescribed Textbooks:

- i. Geschichte der deutschen Dichtung, Fricke/Klotz.
- ii. Wege der deutschen Literatur - Eine geschichtliche Darstellung by Arno Lubos, Jakob Lehmann, Hermann Glaser.

Supplementary book:

- i. Deutsche Literaturgeschichte - Von Anfängen bis zur Gegenwart (J.B. Metzler Verlag Stuttgart)

Viva-voce (Oral exam)

Max. Marks

: 100 marks (Total)

- i. Reading, comprehension (question/answers) of an unseen text : 40 marks
- ii. To speak on one of the given topics : 30 marks
- iii. General conversation in German : 30 marks

Suggestions for preparation:

- i. Magazine (Der Spiegel), Internet websites, Information on German-speaking countries etc.

DEFENCE & STRATEGIC STUDIES
SEMESTER - V
B.A. (HONOURS) THIRD YEAR EXAMINATION, 2023-24

Outlines of Tests, Syllabi and Courses of Reading

Note : There will be one theory paper of 90 marks. The internal assessment will be of 10 marks. The theory paper will have one compulsory short answer type question containing 15 question of 2 marks each covering the entire syllabus. The candidates will be required to attempt any 10 short answer type questions. In addition, there will be four sections of the questions paper. The candidate will be required to attempt one question from each of these carrying 17 ½ marks each.

Paper : Area Studies China-I

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hrs. |

Total Teaching Periods: 75

SECTION-I

1. Military Geography of China : Location, size and strategic importance.
2. Economic and Industrial resources (in brief).
3. Population, composition and characteristics of major ethnic groups.

SECTION-II

1. History of China in brief from the CH'IN to Manchus Dynasty.
2. Nationalist Revolution in China under Dr. Sun Yet Sen : Events and effects.

SECTION-III

1. Rise of Chiang Kai Shek.
2. The Nanking Government of China, long march in China.
3. The Civil War in brief.

SECTION-IV

1. Party-Army Relationship.
2. Communist party and its relationship with the Armed Forces.
3. Higher Defence Organisation.
4. Cultural Revolution.

BOOKS RECOMMENDED :

1. Balance, Edger O. : The Red Army of China, Russell Square, London.
 2. Chatterji, B.R. : Modern China –A Short History, Meenakshi Printing, Meerut.
 3. Encyclopaedia of Britannica.
 4. Gupta, R.S. : History of Modern China, Sterling Pub.
 5. Kapur, Harish : China in World Politics, Div. Pub., N.D.
 6. Liu, F.F. : A Military History of Modern China, Princeton Uni. Press.
 7. Mao Tse Tung : Communist Rule in China.
 8. Mc. Aleavy, Henry : The Modern History of China.
 9. Mitchison : Chinese Revolution.
 10. Nung Chen Li : The Political History of China, Princeton Uni. Press.
 11. Pelissier Roger : The Awakening of China, Secker and Warturg, London.
 12. Tregear, T.R. : A Geography of China, University of London.
 13. Wilson Dick : A Quarter of Mankind, Weidenfeld and Micholson Olson, London.
-

DEFENCE & STRATEGIC STUDIES
SEMESTER - VI
B.A. (HONOURS) THIRD YEAR EXAMINATION, 2023-24

Outlines of Tests, Syllabi and Courses of Reading

Note : There will be one theory paper of 90 marks. The internal assessment will be of 10 marks. The theory paper will have one compulsory short answer type question containing 15 question of 2 marks each covering the entire syllabus. The candidates will be required to attempt any 10 short answer type questions. In addition, there will be four sections of the questions paper. The candidate will be required to attempt one question from each of these carrying 17 ½ marks each.

Max. Marks : 100
Theory : 90 Marks
Int. Ass. : 10 Marks
Time : 3hrs

Total Teaching Periods: 75

Paper : Area Studies China-II

SECTION- I

SINO-INDIAN WAR (1962)

1. Events Leading to the war.
2. Operation in brief.
3. Lessons learnt

SECTION- II

1. Determinants of Chinese Foreign Policy.
2. China's Relations with India.
3. China's Relations with Pakistan and its impact on India.

SECTION-III

1. China's Relations with other neighbouring countries.
2. China's Relations with the U.S.A.
3. China's Relations with Russia.

SECTION-IV

1. Defence Potential of China.
2. China's Modernization Program.
3. China's Nuclear Weapon Development.

Books Recommended:

1. Dalvi, J.P. : Himalyan Blunder, Thackei' and Co., Bombay.
2. Griffith Samoul, B. : The Chinese People's Liberation Anny, Army Pub., N.D.
3. Kapur, Harish : China in World Politics, Div. Pub., N.D.
4. Mao TsiTung : CoIn;m~ist Rule ~Chin~. .
5. Sharma, B.L. : The Paklstan-'-Chma AXIS, Asia Pub., B~mbay.
6. Sinh~; K.K. : Problems of Defence of South and East Asia, Rawat Pub., Jaipur.
7. Tr~er N. Frank and : Twentieth Appraisal Year, Weidenfeld and Nicolson, London, William Genderson
8. Cassell & Company : Guerilla Warfare-Mac Tse- Tung & Guevera, Red Lion Sq.,London.

Journals: -

1. RAUSEN DATA : Problem of Communism.
2. Institute of Defence Studies & Analysis (India)
 - i. Strategic Analysis.
 - ii. Strategic Digest.
3. The China Quarterly.
4. The Institute of Strategic Studies, London. : Military Balance, IISS London.

HISTORY

B.A. (HONOURS) THIRD YEAR EXAMINATION, 2023-24

Note: The Honours programme outlined below is intended to encourage an in depth study of some aspects of society and culture in broad periods and significant epochs in Indian History, and wherever possible, to also provide a comparative perspective. The programme intends to supplement and complement the general course, adding specialized study.

SEMESTER V

Any one paper from the following:

- (i) **History of China**
OR
(ii) **History of Russia**

(i) **HISTORY OF CHINA:**

| | |
|-----------------------------|-----------------|
| Max. Marks: | 100 |
| Theory: | 90 Marks |
| Internal Assessment: | 10 Marks |
| Time | 3 hours |

General Instruction:

1. In all *nine* questions will be set, Each question will carry 18 marks.
2. First question shall be a Short Answer type containing 15 short questions spread over the whole syllabus. Candidates will attempt *nine* out of the fifteen short answer type questions in about 25-30 words each. It shall carry 18 marks (9x2) and shall be **compulsory**.
3. Rest of the paper shall contain 4 units. Each unit shall have two essay type question and the candidates shall attempt *one* question from each unit -4 in all.
4. Each essay type question will be set on half of the topics and not on a single sub topic.

Note: The Honours programme outlined below is intended to encourage an in depth study of some aspects of polity, economy, society and culture in broad periods and significant epochs in World History, and wherever possible, to also provide a comparative perspective. The programme intends to supplement and complement the general course, adding specialized study.

UNIT-I

CHINA IN THE 18TH CENTURY

1. Political and Economic Institutions
2. Social and Intellectual Conditions
3. Foreign Relations

UNIT-II

‘OPENING’ OF CHINA AND REBELLIONS

4. Canton Trade System, Opium Wars, Treaty Settlements
5. Taiping Revolution
6. Reform Movement of 1898

UNIT-III**REVOLUTION AND REFORM**

7. Boxer Rebellion 1900
8. Intellectual, Social and Economic Change
9. Rise of Sun Yat Sen and Revolution

UNIT-IV**RISE OF THE REPUBLIC**

10. Intellectual Revolution and National Unification
11. National Government 1928-37
12. Chinese People's Republic 1945-49

Recommended Readings:

1. Chesneaux, Jean Francoise Le : *China : From the Opium Wars to 1911 Revolution Vol.I.* Delhi : Khosla, 1978.
2. Hsu Immanuel : *C.Y., The Rise of Modern China*, New York : Oxford University Press, 1970.
3. Vinacke, Harold M. : *A History of the Far East in Modern Times*, New York : Appleton Century Crafts, 1961 (6th edn.).
4. Clyde, Paul Hibbert, : *The Far East : A History of the Impact of the West on Eastern Asia*, Englewood Cliffs, N.J. Prentice Hall : 1958 (3rd edn.).

(ii) HISTORY OF RUSSIA:

| | |
|-----------------------------|-----------------|
| Max. Marks: | 100 |
| Theory: | 90 Marks |
| Internal Assessment: | 10 Marks |
| Time | 3 hours |

General Instruction:

1. In all *nine* questions will be set, Each question will carry 18 marks.
2. First question shall be a Short Answer type containing 15 short questions spread over the whole syllabus. Candidates will attempt *nine* out of the fifteen short answer type questions in about 25-30 words each. It shall carry 18 marks (9x2) and shall be **compulsory**.
3. Rest of the paper shall contain 4 units. Each unit shall have two essay type question and the candidates shall attempt *one* question from each unit -4 in all.
4. Each essay type question will be set on half of the topics and not on a single sub topic.

Note: The Honours programme outlined below is intended to encourage an in depth study of some aspects of polity, economy, society and culture in broad periods and significant epochs in World History, and wherever possible, to also provide a comparative perspective. The programme intends to supplement and complement the general course, adding specialized study.

UNIT-I

1. *Liberalism and Reaction* : Alexander I; Nicholas I.
2. *Modernisation of Russia* : Alexander II; Alexander III & Nicholas II.

UNIT-II

3. *Russia and the Far East* : Interventions in China, Mongolia and Manchuria.
4. *Background of Russian Revolution 1905-1917* : Revolution of 1905; Russia on the eve of the Revolution of 1917 – Polity, Society, Economy; Lenin’s Contribution to the Revolution.

UNIT-III

5. *Causes of the Russian Revolution and its Aftermath* : The February Revolution and the Provisional Government, the Bolshevik (October Revolution), its impact on Russia and the World.
6. *Civil War* : Russian withdrawal from First World War; Peace of Brest Litovisk; Allied Intervention.

UNIT-IV

7. *The Soviet Economy* : War Communism; New Economic Policy and its impact.
8. *Planned Economy* : Weaning from the New Economic Policy and the First Five Year Plan.

Recommended Readings :

1. Barrington Moore (Jr.) : *The Social Origins of Dictatorship and Democracy.*
2. Paul Kennedy : *The Rise & Fall of Great Powers*, Fontana Press London, 1988.
3. Lionel Kochan : *The Making of Modern Russia*, Penguin Books, 1962.
4. Basil, Dymtrystyn : *History of Russia*, Prentice Hall, New Delhi, 1977.
5. E.H. Carr : *The Bolshevik Revolution*, Penguin Books Ltd., Victoria, 1971 (Reprint).
6. M.T. Florinsky : *Russia : A Short History*, Macmillan, London, 1971 (2nd ed.)

HISTORY

SEMESTER VI

Any one paper from the following :

- (iii) Social Origins of Right And Left Wing Dictatorship Of Modern Times
OR
(iv) USA and the World c.1800-1960's

(iii) SOCIAL ORIGINS OF RIGHT AND LEFT WING DICTATORSHIP IN MODERN TIMES:

| | |
|-----------------------------|-----------------|
| Max. Marks: | 100 |
| Theory: | 90 Marks |
| Internal Assessment: | 10 Marks |
| Time | 3 hours |

General Instruction:

1. In all *nine* questions will be set, Each question will carry 18 marks.
2. First question shall be a Short Answer type containing 15 short questions spread over the whole syllabus. Candidates will attempt *nine* out of the fifteen short answer type questions in about 25-30 words each. It shall carry 18 marks (9x2) and shall be **compulsory**.
3. Rest of the paper shall contain 4 units. Each unit shall have two essay type question and the candidates shall attempt *one* question from each unit -4 in all.
4. Each essay type question will be set on half of the topics and not on a single sub topic.

Note: The Honours programme outlined below is intended to encourage an in depth study of some aspects of polity, society and culture in broad periods and significant epochs in World History, and wherever possible, to also provide a comparative perspective. The programme intends to supplement and complement the general course, adding specialized study.

UNIT I: China

1. The Collapse of Imperial System, the emergence of War lords; the Kuomintang interlude; efforts at democracy and Capitalism.
2. The Peasant rebellions; Communist Revolutions; success against the Kuomintang

UNIT II: Russia

3. The Internal Collapse of the Tsarist Regime; Revolution of 1917- Feb/ March and October
4. The Establishment of a Communist Government; Forced industrialization and Collective Agriculture; Stalinist Totalitarianism.

UNIT III: Italy

5. Italy's problems with the Capitalist powers; Failure of Italian Democracy in Economic, Social and Foreign policy
6. The Fascist alternative: Ideology and the corporative state

UNIT IV: Germany

7. Germany's rise as a capitalist powers; Weimar republic and its failure.
8. The fascist stresses with western Europe; Nazi totalitarian programme.

Essential readings:

Barrington Moore : *Social Origins of Dictatorship and Democracy*, Penguin/Peregrine 1977.
(reprint)

Reference Reading

Hannah Arendt : *The Origin of Totalitarianism*, Harcourt Brace, New York. 1951

F. Chabad : *A History of Italian Fascism* (Tr. Muricl Grindard) Weidenfeld and Nicolson, London 1961.

(iv) USA AND THE WORLD c.1800-1960's:

| | |
|-----------------------------|-----------------|
| Max. Marks: | 100 |
| Theory: | 90 Marks |
| Internal Assessment: | 10 Marks |
| Time | 3 hours |

General Instruction:

1. In all *nine* questions will be set, Each question will carry 18 marks.
2. First question shall be a Short Answer type containing 15 short questions spread over the whole syllabus. Candidates will attempt *nine* out of the fifteen short answer type questions in about 25-30 words each. It shall carry 18 marks (9x2) and shall be **compulsory**.
3. Rest of the paper shall contain 4 units. Each unit shall have two essay type question and the candidates shall attempt *one* question from each unit -4 in all.
4. Each essay type question will be set on half of the topics and not on a single sub topic.

Note: The Honours programme outlined below is intended to encourage an in depth study of some aspects of society and culture in broad periods and significant epochs in Indian History, and wherever possible, to also provide a comparative perspective. The programme intends to supplement and complement the general course, adding specialized study.

UNIT I

1. US Foreign Policy 1789-97-Response to French; issues with Britain; Jay's Treaty 1799; Pinckney's Treaty 1797; Peace with France
2. Diplomatic Achievements 1800-1820's-Louisiana Purchase; Settlement with Britain; Acquisition of Florida; non colonization of Alaska; liberation of Latin America; Monroe Doctrine
3. Industrial Revolution in America-expansion of transportation; manufacturing; foreign trade and shipping

UNIT II

4. Expansion to the West in the 1830's –Early settlement in the West; Texas question; migration to Oregon
5. Manifest Destiny –Annexation of Texas; Oregon Treaty; Relations with Mexico; conquest of California
6. USA as a World Power-Expansion in Pacific region; Dispute with Venezuela; Results of War with Spain 1898; Policy in Caribbean and Mexico; Open Door Policy in South East Asia

UNIT III

7. USA and World War I-US attitude to war, entry into the war; 14 point programme, role in Paris peace conference 1919
8. Foreign Policy 1920,s-30's- Washington Treaties, Locarno Treaty, Relations with Mexico, Change in 'Big Stick' Policy, Good Neighbour policy, reaction to Chinese situation
9. USA and World War II- US attitude, US aid to War and War Production, Pearl Harbour

UNIT IV

10. New World Order-US Peace Programme and United Nations, Relations with Soviet Union and Containment, Pan, American Conference 1945, post War Europe
11. US in East Asia-American response to China, Japan, Korea, Vietnam
12. US in Europe and West Asia-US and NATO, issues with Egypt, support to Israelis, Eisenhower Doctrine

Recommended readings:

1. Henry Bamford Parkes : *The United States of America: A History*, 1964 (Reprint), Scientific Book Agency, Calcutta, 1976.
2. Richard Current & Others : *History of United States: A Survey*, Alfred A. Knopf, New York,1965.
3. Julius W. Pratt : *A History of United States Foreign Policy*, Prentice Hall (Second Edition), New Jersey, 1965.
4. Allen, G.C., : *Japan's Economic Recovery*, London Oxford University Press, 1958 (Reprint 1960).
5. Beckman, George H : *The Modernization of China and Japan*, New York : Harper and Row, 1962.

POLITICAL SCIENCE

B.A. (HONOURS) THIRD YEAR (SEMESTER SYSTEM) EXAMINATION, 2023-24

Outlines of Tests, Syllabi and Courses of Reading

| | | | | | | | | | | | |
|---------------------|------------|---|--|------------|-------|--------|------------|---------------------|------------|------|----------|
| V SEMESTER | : | Option (i) International Relations since 1945. OR Option (ii) Modern Indian Political Thought. OR Option (iii) Women and Political Process. | | | | | | | | | |
| VI SEMESTER | : | Option (i) Research Methods in (Political Science) Social Sciences. OR Option (ii) Modern Political Ideologies OR Option (iii) Western Political Thought. | | | | | | | | | |
| V SEMESTER | : | Option (i) — INTERNATIONAL RELATIONS SINCE 1945 | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">Max. Marks</td> <td style="width: 30%;">: 100</td> </tr> <tr> <td>Theory</td> <td>: 90 Marks</td> </tr> <tr> <td>Internal Assessment</td> <td>: 10 Marks</td> </tr> <tr> <td>Time</td> <td>: 3 Hrs.</td> </tr> </table> | Max. Marks | : 100 | Theory | : 90 Marks | Internal Assessment | : 10 Marks | Time | : 3 Hrs. |
| Max. Marks | : 100 | | | | | | | | | | |
| Theory | : 90 Marks | | | | | | | | | | |
| Internal Assessment | : 10 Marks | | | | | | | | | | |
| Time | : 3 Hrs. | | | | | | | | | | |

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES:

The syllabus has been divided into four units.

There shall be 9 questions in all. The first question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 10 to 20 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks each. It shall carry 18 marks and shall be a compulsory question. Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all, of 18 marks each.

Objectives : This paper aims at mapping out some of the major transformations that have occurred in the realm of International Relations since 1945.

UNIT-I Post World War-II International Relations :

- (a) Post War World Order.
- (b) Emergence of Super Powers.

UNIT-II Democracy and Rise of IIIrd World :

- (a) Non-Alignment: Meaning and Relevance.
- (b) SAARC, European Union.

UNIT-III Transformation in Post World War II International Relations :

- (a) Decline of Bipolarity.
- (b) Nature of Emerging World Order.

UNIT-IV New Global Scenario and International Relations:

- (a) Demand for New International Economic Order (NIEO)
- (b) Issue of Global Terrorism.

Suggested Readings :

1. Peter Calvocoressi : *World Politics Since 1945*, London : Longman, 1945.
2. Budhraj, V.S. : *International Relations After Second World War* (in Hindi), Chandigarh, Haryana Sahitya Academy, 2000.
3. Keswani, K. B. : *International Relations in Modern World* (1900-1988), Bombay, Himalaya Publishing House, 1994.
4. Baylis and Steve Smith : *The Globalization of World Politics – An Introduction to International Relations*, Oxford, Oxford University Press, 2001.
5. Alan C. Lamborn and Joseph Leggold : *World Politics into the Twenty First Century : Unique Context, Enduring Patterns*, New Jersey, Prentice Hall, 2003.

References :

1. Paul Kennedy : *The Rise and Fall of Great Power*, Fontana Press.
2. Henry Kissinger : *Diplomacy*, London, Simon & Soluster, 1994.
3. Paul R. Viotti & Mark V. Kauppi : *International Relations and World Politics : Security, Economy*, Identity Third Edition Pearson Education, 2007.
4. John Baylis and Steve Smith : *The Globalisation of World Politics : An Introduction to International Relations*, Second Edition, OUP, 2001.

OR**V SEMESTER : Option (ii) — MODERN INDIAN POLITICAL THOUGHT**

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hrs. |

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

The syllabus has been divided into four units.

There shall be 9 questions in all. The first question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 10 to 20 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks each. It shall carry 18 marks and shall be a compulsory

question. Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all, of 18 marks each.

Objectives : The paper aims at creating understanding about the evolution of political thought in modern India with special reference to the stated philosophers.

- UNIT-I** **Sir Syed Ahmed Khan :**
 (a) As a Nationalist.
 (b) Education.
 (c) Muslim Nationalism-As a Communalist.
- UNIT-II** **M.K. Gandhi :**
 (a) Satyagraha.
 (b) Swaraj.
 (c) Non-Violence.
- UNIT-III** **M.N. Roy :**
 (a) Radical Humanism - critique of Marxism
 (b) New Humanism
- UNIT-IV** **B.R. Ambedkar :**
 (a) Annihilation of Caste
 (b) Social Justice
 (c) Democracy : Political and Social

Recommended Readings:-

1. Thomas Pantham & Deutsch (ed.) : *Political Thought in Modern India*, New Delhi, Sage, 1986.
2. Majumdar, B.B. : *History of Indian Social and Political Ideas*, Calcutta: Bookland, 1967.

References :

1. Parekh, Bhikhu : *Colonialism, Tradition, Reform : Analysis of Gandhi's Political Discourse*, New Delhi, Sage, 1989.
2. Iyer, Raghvan (ed.) : *Moral and Political Thought of Mahatma Gandhi*, New York, Oxford, 1973.
3. Appadorai, A : *Indian Political Thinkers in the Twentieth Century*, Delhi, Oxford, 1972.
4. Jatava, D.R. : *The Political Philosophy of B.R. Ambedkar*, Delhi; Arya Phoenix, 1965.
5. Hussain, M. Hadi, Syed Ahmed Khan : *Pioneer of Indian Resurgence Lahore*, Institute of Islamic Culture, 1970.
6. Imam, Zafar, : *Muslims in India*, New Delhi : Orient Longman, 1975.

7. Chattarjee, Partha : *Nationalist Thought and the Colonial World, Delhi : OUP, 1986.*
8. Lyer, Raghavan : *The Moral and Political Thought of Mahatma Gandhi, Delhi : OUP, 1973.*
9. Pantham, Thomas, Parekh, : *Gandhi's Political Philosophy, London, Macmillan, 1989, Bhikhu.*
10. Ghatak, B.K. (ed.) : *Dr. Ambedkar's Thought, New Delhi : APH, 1997.*
11. Keer, Dhanajayay, Dr. Ambedkar : *Life and Mission, Bombay : Popular Parkashan, 1964.*
12. Zelliot, Eleanor : *The Social and Political Thought of B.R. Ambedkar in Pantham and Deutsch, 1986.*
13. Roy, M.N. : *New Humanism, Calcutta : Renaissance, 1953.*
14. Roy, M.N. : *The Philosophy and Practice of Radical Humanism, New Delhi : Radical Humanist Association, 1970.*
15. Roy, Samaren, M.N. Roy : *A Political Biography, Hyderabad : Orient Longman, 1997.*
16. Ray, Sibnarayan (ed.), M.N. Roy : *Philosopher Revolutionary, Delhi, Ajanta, 1995.*
17. Seth, Sanjay : *Marxist Theory and Nationalist Politics, The Case of Colonial India, New Delhi : Sage, 1995.*
18. B.R. Ambedkar (Author) and Arundhati Roy (Introduction) : *Annihilation of Caste: The Annotated Critical Edition, Navayana, Delhi, 2014.*
19. Chitkara, MG : *Dr. Ambedkar and Social Justice, APH Publishing Corporation, 2002.*
20. Christophe Jaffrelot : *Dr. Ambedkar and Untouchability: Analysing and Fighting Caste, Columbia University Press, 2015.*
21. Gail Omvedt : *Ambedkar: Towards An Enlightened India, Penguin India, 2008.*

OR

V SEMESTER: Option (iii) — WOMEN AND POLITICAL PROCESS

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hrs. |

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

The syllabus has been divided into four units.

There shall be 9 questions in all. The first question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 10 to 20 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks each. It shall carry 18 marks and shall be a compulsory

question. Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all, of 18 marks each.

Objectives : The paper aims to introduce students to the key approaches of Feminist thought contemporary debates concerning women and politics in India. It will include an analysis of the Indian State, the role of women's movement and the major feminist issues in contemporary Indian politics.

UNIT-I Theoretical Approaches to Women Studies :

- (a) Liberal Feminism.
- (b) Marxist / Socialist Feminism .

UNIT-II Rise of Women's Movement, its role in Contemporary Societies :

Historical Legacy :

- (a) French Revolution, Civil Rights and Suffrage Movements in the West.
- (b) Role and Contribution of Women in Indian National Movement.

UNIT-III Women and Society in India :

- (a) Evolution of Women's position in India – an historical overview-
 - (i) Vedic period
 - (ii) Medieval Period (Post Vedic Period)
 - (iii) Modern Period
- (b) Social Position:
 - (i) Demographic pattern- Sex Ratio.
 - (ii) Legal, Political and Property Rights.
 - (iii) Access to Education.

UNIT-IV Women's Movement in Contemporary India:

- (a) Women Movement in India- Women Movements against Dowry & Rape
- (b) Women and Political Participation in India-Status & Barriers, 73rd & 74th Amendment.

Recommended Readings :

1. Millet, Kate, *Sexual Politics*, New York, Doubleday, 1970.
2. Michele Barrett, *Women's Oppression Today*, London, Verso, 1980.
3. Lenin, V.I., *On the Emancipation of Women*, Moscow, Progress, 1981.
4. Eisenstein, Zillah, *Capitalist Patriarchy and the Case for Socialist Feminism*, New York, Longman, 1981 (also New York, Monthly Review Press, 1979).
5. Boserup, Easter, *Women's Role in Economic Development*, London, George Allen & Unwin, 1975.
6. Altbach, E.M. (Ed.), *From Feminism to Liberation*, Cambridge, Massachusetts, Schenkman Hare Revised Ed., 1980.
7. Jayawardhane, Kumari (Ed.), *Feminism and Nationalism in the Third World*, New Delhi, 1987.

8. Phadnis, Urmilla and Malani Indira eds., *Women of the World : Illusion and Reality*, New Delhi, Vikas, 1978.
9. Desai, N., *Women in Modern India*, Bombay, Vora & Co., 1977.
10. Nanda, B.R. ed., *Indian Women from Purdah to Modernity*, New Delhi, Vikas, 1976.
11. I.C.S.S.R., *Status of Women's Committee Report*, New Delhi, ICSSR, 1975.
12. Mazumdar, Vina, *Towards Equality*, ICSSR, Delhi.
13. Desai, Neera and Krishanaraj, M., *Women and Society in India*, Delhi, Ajanta, 1987.
14. Chakaravarty, Shanti, *Rural Women's Claim to Priority*, New Delhi, C.W.D.S., 1986.
15. "Women's Struggles and Movement", Paper of Third National Conference, Chandigarh, IAWS.
16. Kaushik, S. (ed.), *Women's Oppression, Patterns and Perspective*, Vikas, New Delhi, 1984.
17. Kumar, Radha, *A History of Doing*, Kali Publications, New Delhi, 2006.
18. Gandhi, Nandita & Shah, Nandita, *The Issues at State*, New Delhi, Kali Publication, 1992.
19. Menon, Nivedita (ed.), *Gender & Politics in India*, New Delhi, Oxford University Press, 1999.
20. Rao, Anupama (ed.), *Gender & Caste*, Delhi, Sage Publications, 2005.

POLITICAL SCIENCE

B.A. (HONOURS) THIRD YEAR (SEMESTER SYSTEM) EXAMINATION, 2023-24

SEMESTER- VI

**VI SEMESTER : Option (i) — RESEARCH METHODS IN (POLITICAL SCIENCE)
SOCIAL SCIENCES**

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hrs. |

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

The syllabus has been divided into four units.

There shall be 9 questions in all. The first question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 10 to 20 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks each. It shall carry 18 marks and shall be a compulsory question. Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all, of 18 marks each.

Objectives : The paper endeavors to introduce the students about the tools of research methodology into social sciences. The paper would enable the students to take up research after Master’s degree.

UNIT-I Research in Social Science with reference to Political Science—Definition, Nature and Limitations.

UNIT-II Methods – Traditional and Scientific, Survey Research Methods : Observation, Interviews, Questionnaire, Content–Analysis.

UNIT-III

- (a) Sample and Sampling Techniques.
- (b) Measures of Central Tendency—Mean, Mode and Median.
- (c) Data Processing—Coding Tabulation and Analysis.

UNIT-IV Research Design : Formulation of Research problem, Hypotheses, Objective, relevance of study, Literature Review, Methodology Report Writing.

Suggested Readings :

1. Goode and Hatt, *Methods in Social Research*, Auddond (McGraw - Hill), New York, 1952.
2. Pauline Yong, *Scientific Survey and Research*, New Delhi, 1968.
3. Arnold Brecht, *Political Theory*, Times of India Press, 1970.
4. Michael S. Lewis-Beck, ed., *The Encyclopedia of Social Science Research Methods*, New Delhi, Sage, 2004.
5. Keith F. Punch, *Introduction to Social Research*, London, Sage, 2005.

6. Shapiro, Ian, Rogers M. Smith and Tarek E. Masoud, *Problems and Methods in the Study of Politics*, Cambridge : Cambridge University Press, 2004.
7. Van Evera, Stephen, *Guide to Methods for Students of Political Science*, Ithaca : Cornell University Press, 1997.
8. Goertz, Gary, *Social Science Concepts : A User's Guide*, Princeton : Princeton University Press, 2006.
9. Creswell, John W., *Research Design : Qualitative, Quantitative, and Mixed Method Approaches* : Thousand Oaks, Calif : Sage Publications, 2003.

OR

VI SEMESTER : Option (ii) : MODERN POLITICAL IDEOLOGIES

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hrs. |

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

The syllabus has been divided into four units.

There shall be 9 questions in all. The first question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 10 to 20 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks each. It shall carry 18 marks and shall be a compulsory question. Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all, of 18 marks each.

Objectives : The paper refers to the basic tenets of modern political ideologies.

- UNIT-I Liberalism :**
- a) Classical and Modern Liberalism.
 - b) Neo Liberalism.

- UNIT-II Socialism :**
- a) Marxian Socialism.
 - b) Democratic Socialism

- UNIT-III**
- a) Anarchism.
 - b) Fascism

- UNIT-IV Gandhism**
- a) Gandhi's Idea of State:
 - b) Social and Political Ideas of Gandhi.

Suggested Readings :

1. Bandhyopadhyaya, J., *Political and Social Thought of Gandhi*, Bombay, 1969.
2. George Lichtheim, *Marxism : An Historical and Critical Study*, Routledge and Kegan Paul, London, 1962.
3. Noel O' Sullivan, *Conservation*, St. Martin's Press, New York, 1976.
4. Manning, D.J., *Liberalism*, St. Martin's Press, New York, 1976.

OR**VI SEMESTER : Option (iii) — WESTERN POLITICAL THOUGHT**

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hrs. |

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

The syllabus has been divided into four units.

There shall be 9 questions in all. The first question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 10 to 20 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks each. It shall carry 18 marks and shall be a compulsory question. Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all, of 18 marks each.

Objectives : This paper aims to introduce to the students the major themes of Western Political Thought. This will be done by taking an in-depth study of the key thinkers of this tradition.

- UNIT-I** Hobbes.
- a) Nature of Man, State of Nature, Natural Laws.
 - b) Social Contract.
 - c) Individualism Vs. Absolutism.
- UNIT-II** Locke.
- a) Nature of Man, State of Nature, Natural Rights.
 - b) Social Contract.
 - c) Contribution of Locke to Liberalism.
- UNIT-III** Rousseau.
- a) State of Nature, Natural Man.
 - b) Social Contract.
 - c) Theory of General Will.
- UNIT-IV** Karl Marx.
- a) Historical Materialism, Economic Determinism.
 - b) Theory of Surplus Value.
 - c) Class Struggle.

Recommended Readings :

1. Sabine, G.H., *A History of Political Theory*, Bombay : Oxford & IBH, 1973.
2. Dunning, W.A., *A History of Political Theories*, 3 Vols., Allahabad : Central, 1973.
3. Sait, E.M. (ed.), *Masters of Political Thought*, 3 Vols., London : George and Harap, 1947.
4. William Ebenstien, *Great Political Thinkers—Plato to the Present*, OUP : New Delhi, 1966.
5. Jen Pike, Nigel Waaburton & Derek Matravers, *Reading Political Philosophy, Machiavelli to Mill*, London, Routledge, Open University, 2000.
6. Andrew Hacker, *Political Theory*, London, OUP, 1961.
7. David Boucher & Paul Kelly, *Political Thinkers, From Socrates to the Present*, Paperback U.K., 2003.
8. David Boucher & Paul Kelly, *The Social Contract—from Hobbes to Rawls*, Paperback, U.K., 1994.

References :

1. Rapheal, D.D., Hobbes, *Morals and Politics*, London, George Allen, 1978.
2. David Macdellan, *Marx*, London, Fontana Modern Masters Series, 1983.
3. Plamenatz, J., *Man and Society*, 2 Vols., New York, Longman, 1984.
4. Hall, J.C., *Rousseau : An Introduction to His Political Philosophy*, London, MacMillan, 1973.
5. John, Dunn, *The Political Thought of John Locke*, Cambridge, Cambridge University Press, 1969.
6. Roger, D. Masters, *The Political Philosophy of Rousseau*, Princeton, Princeton University Press, 1968.
7. Shlomo, Avineri, *The Social and Political Thought of Karl Marx*, New Delhi, S. Chand, 1968.
8. Jon Elster, *Making Sense of Marx*, Cambridge, Cambridge University Press, 1985.
9. Ernest Cassirer, *The Question of Jean Jacques Rousseau*, New Haven and London, Yale University Press, 1989.

ECONOMICS

SEMESTER V

The candidates are required to study **one of the** following papers:

- I Money and Banking.
- II International Economics.
- III Introduction to Econometrics.

Paper-I : MONEY AND BANKING

| | |
|---------------------|-------------|
| Max. Marks | : 100 Marks |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hours |

Objective: Money and Banking constitute important components towards understanding of economics. A clear understanding of the operations of money and banking and their interaction with the rest of the economy is essential to realize how monetary forces operate through a multitude channels- market, non market, institutes and among others, the state. The operation of financial markets and their regulations are to be studied to appreciate their key-role in an economy, especially after the far reaching banking and financial sector reforms in India and elsewhere. The present course is designed to acquaint the students fully with the changing role of financial institutes in the process of growth and development. Accordingly, the paper on 'Economics of Money and banking' is an optimal interaction of monetary theory, banking and non- banking financial institutes, which combines with itself a systematic discussion of the theory, institutions and policy with special reference to India.

The students would be evaluated at the end of each semester through subjective type questions/ answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES:

- (i) *The syllabus has been divided into four units.*

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 12 short questions spread over the whole syllabus to be of answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions. It shall carry 18 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.

- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

UNIT-I

Definition of Money, Money and Near Money Assets.

Supply of Money: Components, Determinants- High Powered Money and Money Multiplier, Measures of Supply of Money in India.

UNIT-II

Demand for Money: Classical Theory, Keynes Liquidity Preference Theory, Friedman's Restatement of Quantity Theory of Money.

Central Banking: Main Functions, Techniques of Monetary Management, Monetary Policy of Reserve Bank of India.

UNIT-III

Commercial Banking: Main Functions, Major Developments and Reforms in Indian Banking System since 1991.

Non-Banking Financial Institutions (NBFIs) – Role and Structure NBFIs in India.

UNIT-IV

International Monetary Fund- Features and Role.

World Bank: Features and Role.

Asian Development Bank: Features and Role.

Recommended Readings:

1. Diulio A. Eugene : Theory and Problems of Money and Banking, International Edition (latest Edition) (Schaum's Outline Series)
2. Gupta, S. B : Monetary Planning in India, S. Chand, New Delhi. (2004)
3. Khanna, Perminder : Advanced Study in Money and Policy : Relevance in the Indian Economy, Atlantic Publishers, New Delhi (2005)
4. Kulkarni, G (1999) : Modern Monetary Theory, McMillan, New Delhi
5. Laidler, D. E. W : The Demand for Money : Theories and Evidence, Allied Publishers, New Delhi. (1977)
6. Bofinger Peter (2001) : Monetary Policy: Goals, Institutions, Strategy and Instrument, Oxford University Press.

Supplementary Readings:

1. Reserve Bank of India Publications- (Latest).
2. Government of India: Economic Survey (latest)

Paper-II: INTERNATIONAL ECONOMICS

| | |
|---------------------|-------------|
| Max. Marks | : 100 Marks |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hours |

Objectives: - The course intends to provide a deep understanding about the broad principles and theories, which tend to govern the free flow of trade in goods, services and capital- both short-term and long-term- at the global level. The contents of the paper spread over the different modules, lay stress on the theory and nature of the subject which, in turn, will greatly help them to examine the impact of the trade policies followed both as the national and international levels as also their welfare implications at macro level and the distribution of gains from trade.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought the students writing assignments, tutorials and seminars.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES:

The syllabus has been divided into four units.

- (i) There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 12 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions. It shall carry 18 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

UNIT-I

The Pure Theory of International Trade: Theories of Absolute Advantage, Comparative Advantage and Opportunity Costs. Heckscher-Ohlin Theory. Factor Price Equalisation. Gains from Trade, their Measurement and Distribution. Terms of Trade, Secular Deterioration Hypothesis.

UNIT-II

Commercial Policy: The Theory of Tariffs, Optimum and Effective Rate of Tariff, Inter-relationship between Trade, Aid and Economic Development. The Theory of Economic Integration among Nations; Forms of Economic Integration. The Theory of Customs Union.

UNIT-III

Balance of Payments, Exchange Rate and Trade Structures: The Process of Adjustment in the Balance of Payments. The Concept of Foreign Trade Multiplier. Fixed Vs. Flexible Exchange Rates and their Relative Merits and Demerits. Structure of Trade, Trade between Developing and Developed Countries. Unequal Exchange and its Impact on Balance of Payments. Current Problems of Trade and Finance of Developing Countries. Role of Multinational Corporations in the Developing Countries.

UNIT-IV

International Monetary System:IMF and International Monetary System, Present International Monetary System, problems of International Liquidity. Proposals for International Monetary Reforms. New International Economic Order.

Recommended Readings :

1. Soderston , B. O. : International Economics, 2nd Edition, Macmillan Press, London, (1994)
2. Salvatore, Dominick : International Economics, John Wiley & Sons. (latest edition)
3. Krugman P R & Obstfeld Maurice (latest edition) : International Economics – Theory and Policy, Addison- wesley.
4. Ghuman , Ranjit Singh : Antar-Rashtriya Arth Vigyan, (Punjabi Medium) Punjabi University, Patiala. (latest edition)

Supplementary Readings :

1. Kindleberger, C. P. : International Economics, Richard Irwin, Homes wood, Illinois, (1987) Indian Edition.
2. Sir Rai Harrod (Trans. Pritam Singh Gill) : Antar-Rashtriya Arth Shastar, Punjabi University, Patiala.

Paper-III: - INTRODUCTION TO ECONOMETRICS

| | |
|----------------------|-------------|
| Max. Marks | : 100 Marks |
| Theory | : 90Marks |
| Internal Assessment: | 10Marks |
| Time | : 3Hours |

Objectives: Application of economic theory need a reasonable understanding of economic relationship and statistical methods. The econometric theory thus becomes a very powerful tool for understanding of applied economic relationships and for meaningful research in economics. This paper accordingly is devoted to equip the students with basic theory of econometrics and relevant application of the methods. The topics covered in the course include various problems faced in estimation of both single equations and simultaneous models.

Besides the time-tested method of imparting verbal instructions through lectures, description and derivation of econometric models would be demonstrated by extensive use of blackboard. Examples, is so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students writing assignments and written examinations.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES:

The syllabus has been divided into four units.

- (i) There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 12 short questions spread over the whole syllabus to be of answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions. It shall carry 18 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

UNIT-I

Definition and Scope of Econometrics. The Methodology of Economic Research. Specification and Estimation of an Econometric Model.
Single Equation Models: Ordinary Least Squares: Estimation and Properties of the Estimators

UNIT-II

Testing of Hypothesis: Basic Concepts; Type I and Type II errors. Simple and Composite Hypothesis. t and F tests. Maximum Likelihood Estimation.

UNIT-III

The General Linear Regression Model in Matrix Form: Estimation and Properties of the Estimators. Tests of Significance of Coefficients. Partial Correlation Coefficients. Multicollinearity: Its Detection and Solution. Heteroscedasticity: Its Detection and Solution.

UNIT-IV

Dummy Variables: The dummy Variable Trap. Interpretation of Slope and Intercept.

Lagged Variables: Uses in Economics. Estimation Problems, Koyck Transformation, Partial and Stock Adjustment Models.

Recommended Readings :

1. Gujarati, Damodar : Basic Econometrics, McGraw Hill, New Delhi.
(2007)
2. Ohnson, J. : Econometrics Methods, 2nd Edition, McGraw Hill, New
(1977)

Supplementary Readings :

1. Intrilligator, M. D. : Econometric Models and Applications, Prentice Hall
(1978)
2. Kendall, M. G. & : Advanced Theory of Statistics, Vols. I & II, Griffin and Co.,
A. Sturat (eds.) London.
3. Maddala, G. S. : Econometrics, New Delhi, McGraw Hill.
(1977)
4. Wallis, K. F. : Topics in Applied Econometrics, London, Bray Hills
(1973)

ECONOMICS SEMESTER VI

The candidates are required to study **one of the** following papers:

- IV Environmental Economics
- V Economics of Labour
- VI Public Finance

Paper-IV : Environmental Economics

| | |
|---------------------|-------------|
| Max. Marks | : 100 Marks |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hours |

Objectives: - This paper aims to make aware students about the importance of environment in economics and vice-versa. It helps them to know the ways of sustaining our resources by optimally allocating them for future use.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES:

The syllabus has been divided into four units.

- (i) There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 12 short questions spread over the whole syllabus to be of answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions. It shall carry 18 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

UNIT-I

Introduction to Environmental Economics: Introduction; the Economy and the Environment: Inter-Linkages; First Two Laws of Thermodynamics.

Economic Efficiency and Market Failures: Market Solution and Efficiency; Market Failures; Problem of Externalities; Public goods and Public bads; Common Property Recourse; Non-convexities; Asymmetric Information.

UNIT-II

Economic of Pollution: Damage Functions and Abatement Cost Functions; Marginal Decision; Optimal Level of Pollution; Market Solutions and Government Actions; Economic Incentives and least-Cost Solution; Command and Control Policies.

UNIT-III

Valuing the Environment: Economic valuation of Environment Goods: Types of Environmental Values; Monetary Valuation Techniques; Non-Monetary Valuation Techniques; Comparing Methodologies. The Environmental Kuznets Curve

UNIT-IV

Cost-Benefit Analysis and the Environment: The Theory of Cost Benefit Analysis; Idea of Discounting and Choice of Discount Rate; Framework for Cost – Benefit Analysis; Discounting and Future Generation.

International Environmental Issue: Economics of Climate Change: Trade & Environment.

Economic Growth and Sustainable Development: Economic Growth and Development; the Environmental Kuznets Curve; Economics of Sustainable Development.

International Environmental Issues: Economics of Climate Change; Trade and the Environment.

Recommended Readings :

1. Goodstein, E.S. : Economics and the Environment (3rded.) Prentice Hall. (2002)
2. Hanley, N., Shogern, J.F and White, B : Environmental Economics in Theory and Practice, Macmillan (1977)
3. Sankar, U. (ed) : Environmental Economics, Oxford University Press, New Delhi. James, A.J., M.N.
4. Murty and Smita : Murty and Smita Mishra (1999), Economics of Water Pollution- The Indian Experience, Oxford University Press, New Delhi Mishra (2006)
5. Varian. Hal R., : Intermediate Micro-Economics- A Modern Approach, 7th ed., (2006) East-West Press.
6. Cherry, S.N. and : Environmental Management- an Indian Perspectives, Macmillan, New Delhi. Vyasual, Vinod (2000)

PAPER- V: ECONOMICS OF LABOUR

| | |
|---------------------|-------------|
| Max. Marks | : 100 marks |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |

COURSE OBJECTIVE: Issues pertaining to the labour market, wage theories, employment policies, trade unions and collective bargaining in the globalized economy have become vitally important for developing countries. In a country like India where the bulk of the labour force is in the unorganized sector and the organized sector is witnessing “joblessness”, the importance of issues such as employment and social security for the growing millions continues to assume significance. This paper exposes students to theoretical as well as empirical issues relating to the labour market with special reference to India. The time-tested method of imparting verbal instructions through lectures would be used

The objective of the course is to provide students with the basic economic tools needed to understand and analyze how earnings are determined, how labour markets work and how various government policies may affect labour market.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES:

The syllabus has been divided into four units.

- (i) There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 12 short questions spread over the whole syllabus to be of answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions. It shall carry 18 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

Unit I

Nature and Scope of Labour Economics, Nature and Characteristics of Labour Markets in Developing Countries like India.

Theories of Wages, Concept of Minimum Wage, Living Wage and Fair Wage in Theories and Practice.

Unit II

Wage Determination in various Sectors- Rural, Urban, Organized, Unorganized and Informal Sectors.

Poverty and Unemployment in Developing Countries, Unemployment: Concept, Types and Employment Policy particularly in India.

Unit III

Impact of Rationalization, Technological Change and Modernization on Employment in Organized Private Industry and Public Sector; Employment in Agriculture Sector; Women and Child labour.

Unit IV

Role and Functions of Trade Unions, Growth, Pattern and Structure of Trade Unions in India, Achievements of Labour Unions, Collective Bargaining.

Industrial Disputes: Causes of Industrial Disputes, Their Settlement and Prevention Mechanism.

BOOKS RECOMMENDED:

1. Binswanger, H. P. & M. R. Rosenzweig (eds.) (1984) : Contractual Arrangements, Employment, and Wages in Rural Labour Markets in Asia, Yale University Press, New Haven.
2. Datt, G. (1996) : Bargaining Power, Wages and Employment; An Analysis of Agricultural Labour Markets in India, Sage Publications, New Delhi.
3. Deshpande, L. K., P. R. Brahmananda and EAG Robinson (eds.) (1983) : Employment Policy in a Developing Economy, Vols. I & II, Macmillan, London.
4. Deshpande, L. K. and J. C. Sandesara (eds.) (1970) : Wage Policy and Wages Determination in India, Bombay University Press, Bombay.
5. Deshpande, S. G. Standing and L. K. Deshpande (1998) : Labour Flexibility in a Third World Metropolis, Commonwealth Publishers, New Delhi.
6. Foster, A. D. & M. R. Rosenberg (1993) : Information Flows and Discrimination in Labour Markets in Rural Areas in Developing Countries, Annual Conference on Development Economics, World Bank, Washington D C.
7. Campbell, R. McConnell and Stanley, L. A. Brue and D. A. Macpherson (2010) : Contemporary Labour Economics, 8th Ed. McGraw Hill Book

SUPPLEMENTARY READINGS:

1. Hauseman, S. (1991) : Industrial Restructuring with Job Security: The Case of European Steel Harvard University Press, Cambridge, Mass.
2. Hicks, J. R. (1932) : The Theory of Wages, Clarendon Press, Oxford.
3. Lester, R. A. (1964) : Economics of Labour (2nd edition), Macmillan, New York
4. McConnell, C. R. & S. L. Brue (1986) : Contemporary Labour Economics, McGraw- Hill, New York.
5. McCormick, B. & Smith (eds.) (1968) : The Labour Market, Penguin, Harmondsworth
6. Tyagi, B.P : Labour Economics and Social Welfare, Jai Parkash Nath and Co. (Latest edition)
7. Pant, S C(1965) : Indian Labour Problems,Chaitanya Publishing House, Allahabad

Paper-VI: PUBLIC FINANCE

| | |
|---------------------|-------------|
| Max. Marks | : 100 marks |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |

Objectives: Role and function of the Government in an economy have been changing with the passage of time. The term 'Public Finance' has traditionally been applied to the package of those policies and operations which involve the use of tax and expenditure measures while budgetary policy is an important part to understand the basic problems of use of resources, distribution of income etc. there are vast array of fiscal institutions- tax system, expenditure programmes, budgetary procedures, stabilization instruments, debt issues, levels of government etc., which raise a spectrum of issues arising from the operation of these institutions. Further, the existing of externalities, concern for adjustment in the distribution of income and wealth, etc. require political processes for their solution in a manner which combines individual freedom and justice. This paper combines a thorough understanding of fiscal institutions with a careful analysis of the issues which underline budgetary policies in general and Indian experience in particular.

The student would be evaluated at the end of each semester through subjective type questions/answer (both short and essay type). The scripts would be evaluated by the examiners having adequate graduate teaching experience in the paper/option concern.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES:

The syllabus has been divided into four units.

- (i) There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 12 short questions spread over the whole syllabus to be of answered in about 25 to 30 words each. The candidates are required to attempt any 9 short answer type questions. It shall carry 18 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 18 marks.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

UNIT-I

The Principle of Public Finance – Subjective and Objective Criteria.

Theory of Public Expenditure:Maximum Social Advantage, Theory of Social Goods: Distinction between

Public, Private and Merit Goods. Public Expenditure and Economic Growth. Effects of Public Expenditure on Production, Distribution, Social Over-head Capital, Stability and Innovation. Criteria of Public Expenditure.

UNIT-II

Public Revenue:Approaches of Equity in Taxation:Benefits principle Cost of Service Principle, Ability to Pay Theory. Effects of Taxation. Analysis of Major Taxes – Income Tax, Expenditure Tax, Corporation Tax, Wealth Tax, Excise Duties, Sales Tax, and Custom Duties. The concept of Taxable Capacity. Taxation in a Developing Economy. Fiscal Incidence: Theories of Tax Shifting, Concepts of Incidence, Measurement of Incidence.

UNIT-III

Public Debt:Role of Public Debt. Different Forms of Public Debt. Burden of Public Debt, Redemption of Public Debt. Debt Management.

Budgetary Policy:Functional and Economic Classification of budgets and their Uses. PerformanceBudgets. Budget as an Instrument of Mobilization and Chanalization of Resources and Redistribution of Income and Wealth.

UNIT-IV

Balance and Unbalanced Budgets.

Fiscal Federalism:Principles of Federal Finance.

Development Finance:Functional Finance vs. Development Finance.

Mobilisation of Financial Resources for Planned Developments.

Suggested Readings:

1. Buchanan J.M. : Public Finance in the Demostic Process (Collected works of James M Buchanan), Library Fund, USA.
2. Musgrave, R. A. : Theory of Public Finance, McGraw- Hill Publishers.
(1959)
3. Musgrave R. A. & : Public Finance in Theory and Practice, Mc Hill Publishers
Musgrave P B
(5th edition)
4. Taylor P.E : The Economics of Public Finance, Macmillan Publishers, New York.
(1949)

SOCIOLOGY

SEMESTER V

Methods and Techniques of Social Research

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hrs. |

Note :

1. For written paper the students will be required to attempt five questions in all. Question No. I will be compulsory and cover the entire syllabus. In addition, students will attempt **four** essay type questions, one from each of the four units.
2. Question No. I will be compulsory comprising of short answer questions. It will consist of 12 short answer type questions of 2 marks each, out of which the students are required to attempt 9 short answer type questions (9 × 2 = 18 marks).
3. On an average, 15 hours are to be devoted to each unit.
4. Question Nos. II to IX will be long answer questions, two questions from each unit with internal choice, consisting of 18 marks each (4 × 18 = 72 marks).

Objective :

The students will be introduced with basic methods and techniques in social research. The objective of this course is to familiarize the students with the basic elements of scientific method, various methods of data collection and social measurement.

Course Content :

UNIT-I

Scientific Method : Features; Concepts; Stages of social research; Hypothesis.

UNIT-II

Sampling Technique: Meaning Population and Census, Sampling frame
Types of Sampling: Probability: Simple random/stratified random/cluster/multi-stage. Non-Probability: Accidental/Quota/Purposive; Sampling Error.

UNIT-III

Techniques of Data Collection : Observation, Participant and Non-Participant Observation, Interview Schedule and Questionnaire (Structured/Unstructured); Case study method.

UNIT-IV

Measurement : Levels and Problems, Measures of Central Tendency: Mean, Mode, Median.

Essential Readings :

1. *Sellitz, Claire et.al* : *Research Methods in Social Relations (Revised ed.), New York: Henry Hold & Co. (latest edition).*
2. *Goode, W.J. & Hatt, P.K. (2006)* : *Methods in Social Research, Delhi, Surjeet Publications*
3. *Young, P.V.* : *Scientific Social Surveys and Research, New Delhi: Prentice Hall of India Private Ltd., (1988)*
4. *Mukerjee, P.N.* : *Methodology on Social Research: Dilemmas and Perspectives, New Delhi: Sage, 2000.*

Further Readings :

1. *Festinger, L. & Katz, D.* : *Research Methods in Behavioural Science, New York: Dryden Press, (1953)*
2. *Lindzey, Gardner & Aronson* : *The Handbook of Social Psychology (2nd ed.), Addison: Wesley Pub. Comp.,(1968)*
3. *Robson, Colin* : *Real World Research, Oxford: Blackwell, (2000)*
4. *Bryman Alman, (2014)* : *Social Research Methods, New Delhi, Oxford University Press*
5. *Neuman, W.L.,(2007)* : *Social Research Methods : Qualitative and Quantitative Approaches, Delhi, Pearson Education*

SOCIOLOGY SEMESTER VI

Option (i) Social Demography

OR

Option (ii) Social Deviance

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hrs. |

Option (i) Social Demography

Note :

1. For written paper the students will be required to attempt five questions in all. Question No. I will be compulsory and cover the entire syllabus. In addition, students will attempt **four** essay type questions, one from each of the four units.
2. Question No. I will be compulsory comprising of short answer questions. It will consist of 12 short answer type questions of 2 marks each, out of which the students are required to attempt 9 short answer type questions ($9 \times 2 = 18$ marks).
3. On an average, 15 hours are to be devoted to each unit.
4. Question Nos. II to IX will be long answer questions, two questions from each unit with internal choice, consisting of 18 marks each ($4 \times 18 = 72$ marks).

Objective :

The course exposes students to various components of population growth, data sources and basic theoretical problems of population. Concepts of mortality and fertility are discussed in general and with reference to India in particular. Students are apprised of the latest Population Policy in India.

Course Content :

UNIT-I

Population : Definition, Scope, Nature, Sources of Population Data-Census and Vital Registration.

UNIT-II

Population Theories : Malthusian theory of Population; Biological: Theory of Density Principle and Diet Theory; Social Theories: Social Capillarity and Theory of Diffusion: Theory of Demographic Transition.

UNIT-III

Concepts of Mortality : Causes of Mortality, Infant Mortality, Mortality Rate in India.

Fertility : Concept of Fertility, Factors affecting Fertility—Biological, Socio-Cultural and Psychological Fertility in India.

UNIT-IV

Population Policy in India, Female Foeticide (reference to PNDT Act).

Essential Readings :

1. *Bhende, Asha & Kanitkar, Tara,(2014)* : *Principles of Population (revised ed.), Mumbai Himalaya Publishing House.*
2. *Bogue, Donald, J.* : *Principles of Demography, New York: John Willey,(1969)*
3. *Nam, Charles, P.* : *Population and Society,(1968)*
4. *Premi, M.K.* : *An Introduction to Social Demography, Delhi: Vikas Publishing House, (1983)*
5. *Weeks, J.R.* : *Population: An Introduction to Concepts & Issues, London: Wardworth Publishing Co., (1988)*
6. *Raj Hans(2010)* : *Fundamentals of Demography, Delhi, Surjeet Publications*

Further Readings :

1. *Bose, Ashish* : *India & The Asian Perspective, New Delhi: B.R. Publishing Corporation, (1993)*
2. *Matras, Juda* : *A Sociological Approach, New Jersey: Prentice Hall, (1977)*
3. *Government of India* : *National Population Policy (2000), Ministry of Health & Family Welfare, GOI.*
(Latest Census Reports and Sample Registration Bulletins of the Government of India.)
4. *Premi, M.K.* : *India's Population: Heading towards a Billion, Delhi: B.R. Publications, (1991)*
5. *Dyson Tim,(2011)* : *Population and Development, The Demographic Transition,Jaipur, Rawat Publications*

OR

Option (ii) Social Deviance

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hrs. |

Note :

1. For written paper the students will be required to attempt five questions in all. Question No. I will be compulsory and cover the entire syllabus. In addition, students will attempt **four** essay type questions, one from each of the four units.
2. Question No. I will be compulsory comprising of short answer questions. It will consist of 12 short answer type questions of 2 marks each, out of which the students are required to attempt 9 short answer type questions (9 × 2 = 18 marks).
3. On an average, 15 hours are to be devoted to each unit.
4. Question Nos. II to IX will be long answer questions, two questions from each unit with internal choice, consisting of 18 marks each (4×18 = 72 marks).

Objective :

To understand the contemporary social problems in society, the students are exposed to the basic concept of deviance, its theoretical perspectives and control mechanisms.

Course Content:**UNIT-I**

Deviance : Definition, Concept (Relative and Absolute) Distinction between deviant behaviour and deviant role. Pathological theories (Biological and Psychological).

UNIT-II

Sociological Theories : Theories of social disorganization (C.H. Cooley, W.F. Ogburn).

Structural-Functional Theories : Theory of Anomie (Emile Durkheim, Robert K. Merton), Differential Association (E. Sutherland and D.R. Cressey).

Interactionist Theories : Theory of Labelling (Edwin M. Lemert and Howard S. Becker).

UNIT-III

Controlling Deviance : Socialization - means and agencies, Social Control: means and agencies, Social codes and customs; Sympathy: passive and active.

UNIT-IV

Selected Problems of Deviance: Sex Deviance, Delinquency, White Collar Crimes, Cyber Crime.

Essential Readings :

1. *Becker, Howard S.* : *Outsiders: Studies in the Sociology of Deviance, Glenco, Free Press, (1987)*
2. *Ferrell, R. & V.L. Swigert [ed.]* : *Social Deviance, New York: J.B. Lippincott Co. (1975).*
3. *Haralambos, M.* : *Sociology – Themes & Perspectives, Delhi, Oxford University Press,(1984)*
4. *Kelly, Delos H.* : *Deviant Behaviour: Readings in Sociology of Deviance, New York: Martin's Press, (1979)*
5. *Lawson, T & T. Heaton* : *Crime & Deviance, New Delhi : Macmillan, (1999)*
6. *Metta, Spencer* : *Foundations of Modern Sociology, New Jersey: Prentice Hall Inc., Englewood Cliff, (1979)*
7. *Michael Mc Kee and Ian Robertson* : *Social Problems, Toronto: Random House Inc., (1976)*
8. *Thio, Alex* : *Deviant Behaviour, London : Houghton Mifflin, (1978)*
9. *Ahuja, Ram,(2012)* : *Criminology, Jaipur Rawat Publications*
10. *Ahuja, Ram,(2015)* : *Social Problems in India, Jaipur, Rawat Publications*

Further Readings :

1. Erdwin. H. Pfuhl : *The Deviance Process*, New York: D.Van Nostrand Co., (1980)
2. Ian Robertson : *Sociology*, New York: Publisher Inc. (1977)
3. John, J. Grant : *Social Problems as Human Concern*, San Francisco: Body & Fraser Publishing Company, (1976)
4. Rubington, Weinberg : *Studies of Social Problems*, New York: Oxford University Press, (1977)
5. Rushing, William A. [ed.] : *Deviant Behavior & Social Process*: Rand McNally College Pub. Co., (1985)
6. Bansal,S.K.(2013) : *Cyber Crime, New Delhi, APH Publications*
7. Sharma,Rajendra K,(1988) : *Social Disorganization, New Delhi :Attantic Publications*
8. Byrne, David,(2009) : *Social Exclusion, Jaipur, Rawat Publications*

PHILOSOPHY
B.A. (HONOURS) THIRD YEAR EXAMINATION, 2023-24
SEMESTER – V

Paper-A, Option (i) : PHILOSOPHY OF SCIENCE

OR

Paper-A, Option (ii) : SOCIAL AND POLITICAL PHILOSOPHY

Paper-A Option (i) : PHILOSOPHY OF SCIENCE

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

AIMS AND OBJECTIVES :

The aim of this paper is to analyse the concepts of philosophy and science, Einstein's Theory of Relativity i.e. space, time and relativity; Nature of observational language and theoretical language; causality, prediction and probability; Principle of Complimentarity.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

The syllabus has been divided into four units.

There shall be 9 questions in all. First question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks of each. It shall carry 18 marks and shall be **compulsory** question. Rest of the paper shall contain 4 units. Each unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall *attempt one question* from each Unit – 4 in all, of 18 marks each.

Course Contents:

UNIT-I

- The Nature and Scope of Philosophy of Science. Relation between Philosophy and Science.
- Einstein's Theory of Relativity : Space, time, reality.
- Methodological character of theoretical concepts. Observational language, theoretical language, a criterion of significance of theoretical terms. Dispositional concepts, Difference between theoretical terms and pure dispositional terms.

UNIT-II

- Causality, Prediction and Probability.
- Principle of Causality.
- Causality as the existence of Laws.

UNIT-III

- Causal Law and Statistical Laws.
- Induction and Probability.
- Theories of Probability.

UNIT-IV

- Rationality Debate & Theory Choice.
- Popper & Kuhn

Essential Readings :

Bridgman, P.W.(1958), *The Logic of Modern Physics*, Macmillan : New York
 Earnest Nagel (1979), *Structure of Science* : Hackett Pub. Co.
 Hans Reichenbac (1994), *Rise of Scientific Philosophy* :California University Press

Suggested Readings :

Minnesota Studies in the Philosophy of Science, Minnesota Centre for Philosophy of Science, 1958.
 Phillip Frank (1957), *Philosophy of Science: The Link between Science and Philosophy* (Englewood Cliff : Prentice Hall)

OR**Paper – A, Option (ii) : SOCIAL AND POLITICAL PHILOSOPHY**

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

AIMS AND OBJECTIVES :

The paper aims at understanding the nature of social and political philosophy and some of its fundamental concepts; its major social and political theories and Indian political thought.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES:

The syllabus has been divided into four units.

There shall be 9 questions in all. First question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks of each. It shall carry 18 marks and shall be **compulsory** question. Rest of the paper shall contain 4 units. Each unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall *attempt one question* from each Unit – 4 in all, of 18 marks each.

Course Contents:**UNIT-I**

- Nature and Scope of Social and Political Philosophy :
 - Relation between Social and Political Philosophy and Social Sciences such as Sociology and Political Science with special emphasis on the distinction between Philosophy and Science.
 - Empirical and Scientific study of society and politics as distinct from philosophical study of society and politics.

UNIT-II

- Some Fundamental Concepts of Social and Political Philosophy :
 - Distinction between Natural Facts and Social Facts.
 - Normative Aspects of Socio-Political Reality.
 - State and Civil Society.
 - Liberty, Equality and Fraternity.
 - Social Change and Social Progress.
 - Tradition and Modernisation.
 - Power and Authority.
 - Reform and Revolution.
 - Justice.

UNIT-III

- Major Social and Political Theories
- Liberalism.
- Egalitarianism.
- Anarchism.

UNIT-IV

- Indian Political Thought : Chanakya, Vivekananda, Gandhi, Ambedkar.

Essential Readings :

Ambedkar, B.R. (2003), *Writings and Speeches*, Government of Maharashtra, Bombay., Vol. 18, 19 & 20

Bhattacharyya, K.C. (1983), *Studies in Philosophy*, Motilala (U.K.) Books of India, New Delhi

Gautam, S.P. (1991), *Samaj Darshan*, Haryana Sahitya Akademy, Chandigarh

Tagore (2002), *Religion of Man*, Rupa Publications, Paperback, New Delhi

Will Kymlica Kamal Nayan Chaubey (2010), *Samkalin Rajniti – Darshan Ek Parichay*, 2nd Ed. Pearson Delhi

Complete Works of Swami Vivekananda (relevant portions) Advaita Ashram, Calcutta, 1957.

Suggested Readings :

Menon, Nivedita (2013), *Seeing like a Feminist*, Zubaan: New Delhi

Miller, David (2003), *Political Philosophy, A very short introduction*, Oxford University Press, New York

PHILOSOPHY
B.A. (HONOURS) THIRD YEAR EXAMINATION, 2023-24
SEMESTER – VI

Paper -B, Option (i) : LOGIC

OR

Paper-B Option (ii) : PHILOSOPHY OF CULTURE

OR

Paper -B, Option (iii) : AESTHETICS

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

AIMS AND OBJECTIVES :

The paper aims at training the students in skills of critical reasoning by introducing laws of thought, criteria for validity of arguments, deductive and inductive reasoning.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

The syllabus has been divided into four units.

There shall be 9 questions in all. First question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks of each. It shall carry 18 marks and shall be **compulsory** question. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall *attempt one question* from each Unit – 4 in all, of 18 marks each.

Course Contents :

UNIT-I

- Nature and Scope of Logic.
- Deductive Inference.
- Laws of Thought.

UNIT-II

- Aristotelian Classification of Propositions.
- Immediate and Mediate Inference.
- Syllogism.

UNIT-III

- Truth Tables.
- Propositional Calculus.
- Quantifiers and Propositional Functions.
- Predicate Calculus.

UNIT-IV

- Inductive Logic.
- Probability.
- Scientific Method.
- Law and Explanation

Essential Readings :

Irving Copi (2004), *Introduction to Logic*, Prentice Hall

Irving Copi (1979), Nagel and *Symbolic Logic*, Prentice Hall

Cohen (2002), *Introduction to Logic and Scientific Method*, Simon Publications

Suggested Readings :

Russell (1970), *Principles of Mathematics* (Allen & Unwin London)

Jean Necod (1970), *Foundations of Geometry and Induction* (kegan Paul)

OR

Paper- B Option (ii) : PHILOSOPHY OF CULTURE

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

AIMS AND OBJECTIVES :

This paper aims to introduce the problems like origin and meaning of culture, civilization, tradition, the role of ideology and Utopia, Indian cultural tradition.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

The syllabus has been divided into four units.

There shall be 9 questions in all. First question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks of each. It shall carry 18 marks and shall be **compulsory** question. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall *attempt one question* from each Unit – 4 in all, of 18 marks each.

Course Contents :**UNIT – I**

- Origin and meaning of Culture.
- Culture, Civilization and the Individual.

UNIT – II

- Religion as an Apex of Culture.
- Culture and Language.

UNIT – III

- Culture, Tradition and Modernity. The metaphysical loss of Human.
- Sources of Indian Culture Tradition.

UNIT – IV

- Role of Science and Technology in Cultural Evolution.
- Inter – Cultural understanding and Hermeneutic Tradition.

Essential Readings:

Eliot (1962), Notes towards definition of Culture, Faber & Faber, London

Gadamer (2005), Truth and method. Continuum International

G.C. Pandey (1972), Meaning and Process of Culture. Shivalal Aggarwal & Co. Agra

Sneh Pandit Ed. (1980), Perspectives on Philosophy of Culture, Delhi, S. Chand

Vellassery Sebastian & Geeta Manaktala (2008), Foundations of Indian Social Life: Cultural, Religious and Aesthetics. Booksurge Publishing U.S.

Wittgenstein (1980), Culture and Value. translated by Peter Winch, Oxford Blackwell

Suggested Readings :

A.J. Toynbee (1948), Civilization on Trial, Oxford University Press

Paul Ricouer (1984), Time and Narrative published by University of Chicago Press, London

OR

Paper – B, Option (iii) : AESTHETICS

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

AIMS AND OBJECTIVES :

This paper aims at familiarizing the students with the meaning and scope of Aesthetics, art and society, aesthetic experience according to the Western and Indian tradition.

INSTRUCTIONS FOR THE PAPER-SETTER AND CANDIDATES :

The syllabus has been divided into four units.

There shall be 9 questions in all. First question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions i.e. 2 marks of each. It shall carry 18 marks and shall be **compulsory** question. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall *attempt one question* from each Unit – 4 in all, of 18 marks each.

Course Contents :**UNIT-I**

- Aesthetics, its meaning and scope.
- Nature and function of art.

UNIT-II

- The relation of art to society.

UNIT-III

- Meaning and purpose of art in the Indian Tradition.

UNIT-IV

- Nature of Aesthetic experience according to the Western and Indian traditions.

Essential Readings :

Hiriyanna (1954), Art Experience, Karyalaya Publications: Mysore

Susan, L. Feagin and Patrick Maynard (ed.) (1997), *Aesthetics*, Oxford University Press

Suggested Readings :

Meredith (220 &) The Critique of Judgement by Immanuel Kant Tr., J.C., Oxford University, Press

Morris Weitz (ed.) (1970), Problems of Aesthetics : An Introductory Book of Readings, Macmillan, New York

PSYCHOLOGY

B.A. (HONOURS) THIRD YEAR EXAMINATION, 2023-24

SEMESTER V

PAPER: PSYCHOLOGICAL TESTING

| | | |
|---------------------|---|----------|
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

OBJECTIVES :

- (I) Its aim is to introduce the students history, importance and classification of psychological testing and provide them with knowledge and procedure of test construction and standardization.
- (II) Pedagogy of the Course Work :
80% Lectures (including expert lectures).
20% assignments, discussion and seminars and tests.

INSTRUCTIONS FOR PAPER-SETTER AND THE CANDIDATES :

There shall be 9 questions in all. Five questions are required to be attempted. The first question shall be Short Answer type containing 12 short questions spread over the whole syllabus and the students are required to attempt nine short answer type questions in about 25-30 words each. It shall carry 18 marks and shall be compulsory question. Rest of the paper shall contain 4 Units. Each Unit shall have two essay type questions and the candidates shall be given internal choice, i.e. the candidates shall attempt one question from each Unit – 4 in all of 18 marks each.

- UNIT-I** : *Introduction to Psychological Tests* :History of Psychological Testing; Nature of Psychological Tests. Classification of Tests; Use of Tests.
- UNIT-II** : *Item Writing and Item Analysis* :Characteristics of a Good Item; Various types of Items; Item Difficulty; Item Discrimination.
- UNIT-III** : *Reliability and Validity* :*Reliability* : Concept, Types, Factors Affecting Reliability.
Validity : Concept, Types, Factors Affecting Validity; Relation between Reliability and Validity.
- UNIT-IV** : *Interpretation of Test Scores* :*Criterion Referenced Scores* : Content Referenced and Outcome Referenced Scores; Norms Referenced Scores; Concept of Norms, Types of Norms (Percentile Scale and T. Scale).

Note : The use of non-programmable calculators and statistical tables is allowed in the examination.

Books Recommended**Suggested Readings :**

1. Anastasi, A. (1998) : *Psychological Testing*, New York : Macmillan.
2. Gregory, R.J. (1996) : *Psychological Testing*, Singapore : Allyn and Bacon.
3. Guilford, J.P. and Fruchter, B.(1981): *Fundamental Statistics in Psychology and Education*, McGraw Hill.
Singapore:
4. Guilford, J.P. (1954) : *Psychometric Methods*, New Delhi : Tata McGraw Hill.

Reference Books :

1. Freeman, F.S. (1962) : *Theory and Practice of Psychological Testing*, New Delhi : Oxford and IBH.
 2. Cronbach, L.J. (1990) : *Essentials of Psychological Testing*, New York : Harper and Row.
 3. Brown, F.G. (1976) : *Principles of Educational and Psychological Testing*, New York : Holt, Rinehart and Winston.
-

PSYCHOLOGY**B.A. (HONOURS) THIRD YEAR EXAMINATION, 2023-24****SEMESTER VI****PAPER: Counselling and Organizational Psychology**

| | | |
|---------------------|---|----------|
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

OBJECTIVES :

- (I) Its aim is to introduce the students history, importance and classification of psychological testing and provide them with knowledge and procedure of test construction and standardization.
- (II) Pedagogy of the Course Work :
80% Lectures (including expert lectures).
20% assignments, discussion and seminars and tests.

INSTRUCTIONS FOR PAPER-SETTER AND THE CANDIDATES :

There shall be 9 questions in all. Five questions in all are required to be attempted. The first question shall be Short Answer type containing 12 short questions spread over the whole syllabus and the students are required to attempt nine short answer type questions in about 25-30 words each. It shall carry 18 marks, and shall be compulsory question. Rest of the paper shall contain 4 Units. Each unit shall have two essay type questions and the candidates shall be given internal choice, i.e. the candidates shall attempt one question from each Unit – 4 in all of 18 marks each.

- UNIT-I** : Concept of Counselling; Approaches to Counselling; Freudian, Experiential Client Centered, Gestalt, Existential, Cognitive Behaviour Therapy.
- UNIT-II** : Work Motivation: Early and Contemporary Theories.Strategies of Organizational Development.
- UNIT-III** : Concept and Nature of Health Protective Behaviour.Concept and types of Health Coronary Behaviour (Special reference to nicotine addiction and alcoholism).
- UNIT-IV** : Psychology of Exceptional Children with special reference to learning disabled and Gifted Children.

Books Recommended :**Suggested Readings :**

1. Luthans, F. (1998) : *Organizational Behaviour*, New York : Irwin McGraw Hill.
2. Moorhead, G. and Griffin, R.W. (1999) : *Organizational Behaviour*, Delhi : AITBS.
3. Parikh, M.R. & Gupta, R. (2010) : *Organizational Behaviour*, Tata McGraw Hill Education Private Limited, New Delhi : West Patel Nagar.
4. Robbins, S.P. (2000) : *Organizational Behaviour*, New York : Prentice Hall of India.
5. Rao, S.N. (1992) : *Counselling and Guidance*, New Delhi : Tata McGraw Hill.
6. Nystul, M.S. (1999) : *Introduction to Counselling – An Art and Science Perspective*, Boston : Allyn and Bacon.
7. Brannon, L. and Feist, J. (2007): *Introduction to Health Psychology*. New Delhi: Thomson – Wadsworth.
8. Mohan, J. and Sehgal, M. (2006): *Health Psychology*. New Delhi: Abhijeet Publications.
9. Narayan, J.(2003) : *Educating Children with Learning Problems in Regular Schools*, Secunderabad : NIMH.
10. Raj, F. (2010) : *Breaking Through: A Hand book for parents and teachers of children with Specific Learning Disabilities*, Secunderabad: Vifa Publishers.

Reference Books :

1. Newstrom, J.W. and Davis K. (1998) : *Organizational Behaviour*, New Delhi : Tata McGraw Hill .
2. Woolfe, R., and Dryden, W. : *Handbook of Counselling Psychology*, New Delhi : Sage (Eds.) (1996) Publications.

GEOGRAPHY**B.A./B.Sc. (HONOURS) THIRD YEAR EXAMINATION, 2023****SEMESTER V****Paper III: APPLIED GEOGRAPHY****Max. Marks: 100**

(Terminal Exam: 90 Marks)

(Internal Assessment: 10 Marks)

Time: 3 Hours

Objectives:

To understand the prevalent issues in environment, society and economy and to provide a geographical interpretation with special reference to India

Course Content:**Unit- I****Applied Geography: Meaning and concepts:**

Meaning, nature and scope and significance of Applied Geography. Concept of planning region.

Regionalisation scheme with reference to economic regionalization. (25 lectures)

Unit- II**Applied Geography: Methods and techniques:**

Cartographic techniques using point, line and area symbols. (10 lectures)

Unit- III**Applied Geography: Contributions:**

Industrial location theory of Weber and its application in industrial planning.

Christaller's Central Place Theory and its application in location of central places.

Von Thunen's Agricultural Location Theory and its application in agricultural location.

Perroux's Growth Pole Theory and its application in regional development planning.

UNIT- IV

Land use studies: Rural and Urban.

Rural Land Use: Survey and Classification.

Urban Land Use : Survey and Classification.

Notes:

1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 10 parts in about 25-30 words each. Each part will carry 2 marks (total 20 marks).
2. The whole syllabus will be divided into 4 Units. Eight questions will be set out of the whole syllabus, 2 from each unit. The students will be required to attempt one question from each unit. These will be in addition to the compulsory question at serial number 1.
3. Internal assessment may include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.

Books Recommended

Essential Readings:

- | | | | |
|----|----------------------------------|---|--|
| 1. | Carter, H. | : | The Study of Urban Geography, Arnold-Heinemann, New Delhi, 1979. |
| 2. | Chorley, R.J. & P. Haggett (Ed.) | : | Models in Geography, Methuen & Co., London, 1967. |
| 3. | Jones, Alun | : | Fieldwork in Geography, Longman, Green Co., London, 1968. |
| 4. | Stamp, L.D. | : | Applied Geography, Penguin Books, England, 1960. |
| 5. | Singh, R.L. (Ed.) | : | Applied Geography, National Geographical Society of India, Department of Geography, B.H.U., Varanasi, India. |

Further Readings:

- | | | | |
|----|------------------------|---|---|
| 1. | Dawson, J.A. | : | Geography, Teach Yourself Books, Hodder and Stoughton, UK 1983. |
| 2. | Misra, R.P. and others | : | Regional Development Planning in India, Vikas, New Delhi.1974 |
| 3. | Misra, V.C. & others | : | Essays in Applied Geography, University of Sagar, India.1976 |

4. Sen Gupta, P. & Sadasyuk Galina : Economic Regionalization of India, Problems and Approaches, Registrar General Census of India.
5. Singh, Jasbir & Dhillon, S.S. : Agricultural Geography, Tata McGraw Hill, New Delhi, 1994.
6. World Report, World Bank & OUP (Annual Report)

Pedagogy:

- Exposure to media.
- National Five Year Plan documents and publications related to planning.
- Field work related to land –use and other socio-economic issues.

GEOGRAPHY**B.A./B.Sc. (HONOURS) THIRD YEAR EXAMINATION, 2024
Semester VI**

Any one of the following options:

- Option (i) : AGRICULTURAL GEOGRAPHY (An Elementary Course)**
Option (ii) : POLITICAL GEOGRAPHY (An Elementary Course)
Option (iii) : ENVIRONMENTAL GEOGRAPHY (An Elementary Course)

Option (i) AGRICULTURAL GEOGRAPHY (An Elementary Course)**Max. Marks: 100**

(Terminal Exam: 90 Marks)

(Internal Assessment: 10 Marks)

Time: 3 Hours

Objectives:

- To familiarise the students with the concepts and development of agriculture;
- To examine the role of agricultural determinants towards changing cropping patterns, intensity, productivity, diversification and specialisation. The course further aims to familiarise the students with the application of various theories, models and classification schemes of cropping patterns and productivity.
- Its objective is also to discuss environmental, technological and social issues in agricultural sector with special reference to India.

Course Content:**Unit- I**

Nature, scope and significance of agricultural geography.

General landuse classification.

Physical determinants of agricultural landuse: Relief, climate, soils.

Unit- II

Social and cultural determinants of agricultural landuse, land tenure, size and fragmentation of holdings and labour.

Economic determinants of agricultural landuse: Marketing facilities, transport facilities, tariff and import restrictions, price incentives, credit.

Unit-III

A critical review of Whittlesey's agricultural classification.

Characteristics and world patterns of the following:

Subsistence types of agriculture: Nomadic herding, shifting cultivation, rudimentary sedentary tillage, intensive subsistence tillage, subsistence crop and livestock farming.

Unit- IV

Commercial types of agriculture: livestock ranching, commercial plantation farming, commercial grain farming, mixed farming, commercial dairy farming.

Notes:

1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 10 parts in about 25-30 words each. Each part will carry 2 marks (total 20 marks).
2. The whole syllabus will be divided into 4 Units. Eight questions will be set out of the whole syllabus, 2 from each UNIT. The students will be required to attempt one question from each UNIT. These will be in addition to the compulsory question at serial number 1.
3. Internal assessment may include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.
4. For reappear/improvement candidate(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned.

Books Recommended:

Essential Readings:

1. Alexander, J.W.: *Economic Geography*, Prentice Hall, Englewood Cliffs, latest Edition.
2. Husain, M. : *Systematic Agricultural Geography*, Inter-India Publications, New Delhi, 2000.
3. Singh, J. & Dhillon, S.S. : *Agricultural Geography*, Tata McGraw Hill Publishing New Delhi, 1994.

Further Readings:

1. Morgan, W.B. & Munton, R.J.C. : *Agricultural Geography*, Methuen, London, 1971.
2. Symons, L. : *Agricultural Geography*, G. Bell & Sons, London, 1964.

Pedagogy:

The teacher should impress the students the overall importance of agriculture in the global perspective. The world is fast changing and its impact is felt on agriculture. Population is increasing and demand of agricultural products is also on the increase. Contrary to it, the farm lands are decreasing, that necessitates infusion of technology in agricultural sector. It is causing environmental pollution. The teacher should interact with students on said issues. Examples from neighbouring areas may be given to the students for better perceptions.

Option (ii): POLITICAL GEOGRAPHY (An Elementary Course)**Max. Marks: 100**

(Terminal Exam: 90 Marks)

(Internal Assessment: 10 Marks)

Time: 3 Hours

Objectives:

- To familiarise the students with the geographical factors which have a bearing on the political/ administrative organisation of space.
- To enhance awareness among the students of multi-dimensional nature of geo-political space.

Course Content:**Unit- I**

Nature and scope of political geography, phases in the development of political geography. Physical elements of political geography: Location, size and shape, relief, climate, and seas and oceans.

Unit- II

Economic elements of political geography: Basic natural resources; food and power, minerals, industry, trade and transportation.

Human-cultural elements of political geography: Ethnographic structure of nations, language, religion, population, quantity and quality.

Unit- III

Concepts of frontiers and boundaries: Classification of boundaries.

Global distribution of political power: Views of Mackinder, Mahan and Spykman and their contemporary relevance.

Unit- IV

International tension: Identification of tension areas and factors contributing to tensions in different areas with special examples from Middle East and Indian Ocean.

Political Geography of the Indian Ocean.

Notes:

1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 10 parts in about 25-30 words each. Each part will carry 2 marks (total 20 marks).
2. The whole syllabus will be divided into 4 Units. Eight questions will be set out of the whole syllabus, 2 from each unit. The students will be required to attempt one question from each unit. These will be in addition to the compulsory question at serial number 1.
3. Internal assessment may include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.
4. For reappear/improvement candidate(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned.

Books Recommended:

Essential Readings:

- | | | | |
|----|-------------------------------|---|---|
| 1. | De Blij, H.J. Glassner, M. | : | <i>Systematic Political Geography</i> , John Wiley, New York, 1968. |
| 2. | Dikshit, R.D. | : | <i>Political Geography: A Contemporary Perspective</i> , Tata McGraw Hill, New Delhi, 1996. |

Further Readings:

- | | | | |
|----|---|---|---|
| 1. | Adhikari, Sudeepa | : | <i>Political Geography</i> , Rawat, Jaipur, 1997 |
| 2. | Muir, R. | : | <i>Modern Political Geography</i> , Macmillan, London, 1981. |
| 3. | Prescott, J.R.V. | : | <i>Political Geography</i> , Methuen, London, 1992. |
| 4. | Prescott, J.R.V. | : | <i>The Geography of Frontiers & Boundaries</i> , Aldine Pvt. Ltd., Chicago, 1965. |
| 5. | Valkenberg, S.V. New & Stotz, Carl, L. | : | <i>Elements of Political Geography</i> , Prentice Hall of India, Delhi, 1963. |

Pedagogy:

- Fieldwork to understand the political/administrative boundary configuration and people's problems and their perceptions.
- Consult political maps (large scale, small scale).
- Atlases and archival records.
- Collect relevant newspaper items for group discussion.
- Prepare pin-up board for display of important events of geopolitical nature.

Option (iii): ENVIRONMENTAL GEOGRAPHY (An Elementary Course)**Max. Marks: 100**

(Terminal Exam: 90 Marks)

(Internal Assessment: 10 Marks)

Time: 3 Hours

Objectives:

- To understand the significance of environment and its interrelationship with man.
- To understand the importance of soil and factors responsible for erosion.
- The importance of energy sources, forest and wildlife and their preservation to be studied.

Course Content:**Unit-I**

Environment and Geography: Relationship between geography and environment; definition and scope of environmental geography; significance of environmental studies.

The Environment: Characteristics, components and functioning; concept of healthy environment.
(6 + 6 = 12 lectures)

Unit- II

The Soil System: Origin and composition; horizons, texture, chemistry, factors influencing soil types; soil erosion, soil conservation; and soil pollution.

Energy: Energy flow in the ecosystem; environmental impact of both conventional and non-conventional energy sources.
(6 + 4 = 10 lectures)

Unit- III

Forests: Significance; world reserves; deforestation; and conservation strategies.

Wildlife: Wildlife and environment relationship, regional distribution; conservation of wildlife; and wildlife in India.
(5 + 5 = 10 lectures)

Unit- IV

Population and Environment: Basic issues, environmental impact of population growth and agenda for action.

Global Environmental Issues: Water contamination; atmospheric pollution; acid rain; noise pollution; and control strategies.

Legislative strategies, environmental issues and the international community; Rio-de-Janeiro Earth Summit of 1992; selected environmental protection laws in India; Environmental Protection Act, National Environmental Tribunal Act, Wildlife Protection Act, Forest Conservation Act, Air Act, Water Act. (6 + 6 + 6 = 18 lectures)

Notes:

1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The student shall attempt any 10 parts in about 25-30 words each. Each part will carry 2 marks (total 20 marks).
2. The whole syllabus will be divided into 4 Units. Eight questions will be set out of the whole syllabus, 2 from each unit. The students will be required to attempt one question from each unit. These will be in addition to the compulsory question at serial number 1.
3. Internal assessment may include written assignments, snap tests, participation in discussion in the class, term papers, attendance etc.
4. For reappear/improvement candidate(s) who have not been assessed earlier for Internal Assessment, the question paper(s) in their case shall be of Maximum Marks allotted to the paper(s) concerned.

Books Recommended:

Essential Readings:

- | | | | |
|----|---------------|---|---|
| 1. | Adam, W.M. | : | <i>Green Development: Environment & Sustainability in the Third World</i> , Routledge, London, 1990. |
| 2. | Chandna, R.C. | : | <i>Environment Awareness</i> , Kalyani Publishers, New Delhi. Clarendon Press, Oxford, 1998. Also available in Hindi & Punjabi. |
| 3. | Chandna, R.C. | : | <i>Environmental Geography</i> , Kalyani Publishers, New Delhi, 2001. |
| 4. | Goudie, A.S. | : | <i>The Human Impact on Environment</i> , Blackwell, Oxford, 1993. |

Further Readings:

1. Ehrlich, Paul, R. et. al : *Ecoscience – Population, Resources and Environment*, Freeman and Co., San Francisco, 1977.
2. Goudie, A.S. : *Environmental Change, Contemporary Problems in Geography*, Clarendon Press, Oxford, 1992.
3. Pickering, K.T. : *An Introduction to Global Environmental Issues*, Routledge, London, 1994.
4. Singh, Savinder : *Environmental Geography*, Paryag Pustak Bhawan, Allahabad, 1991.
5. Strahler, A.N. & Strahler, L.A. : *Geography and Man's Environment*, John Wiley & Sons, New York.

Pedagogy:

- The interaction of teacher and students is must on issues related to environment, energy resources, forest and soil preservation.
- A field visit to those areas where soil erosion is a serious problem be arranged and methods of conservation be taught.

PUBLIC ADMINISTRATION SEMESTER -V

Paper- III : RESEARCH METHODS AND STATISTICS

Max. Marks: 100
Theory: 90 Marks
Internal Assessment: 10 Marks
Time : 3 Hours

Objective of the Paper :

The objective of the paper is to give the student an in-depth understanding about the nature and scope of Social Research, Methods of Social Research, data collection and data processing. It would also acquaint the students with basics of sampling and statistical methods including measures of central tendency, dispersion, correlation and Chi-Squares Test.

INSTRUCTIONS FOR PAPER-SETTERS AND CANDIDATES :

- For Private/Centre for Distance and Online Education (CDOE) students, who have not been assessed earlier for the internal assessment, the marks secured by them in the paper will proportionately be increased in lieu of the internal assessment.

The Paper-Setter must put a note in question paper in this regard.

- The candidate shall attempt 5 questions in all (one compulsory and one each from four units). The first compulsory question shall comprise of 12 short-answer type questions, covering the whole syllabus, to be answered in 25-30 words each, out of which the candidate would be required to attempt any 9. Each question will carry 2 marks. Rest of the paper shall contain 4 units, each unit having two questions, out of which the candidate would be required to attempt one. Each question will carry 18 marks.

UNIT-I

Meaning, Nature and Scope of Social Research.
Concepts; Hypotheses : Meaning, Types and Significance.
Research Design - Meaning, Types and Components.
Methods of Social Research - Experimental–Survey and Case Study.

UNIT-II

Methods of Data Collection—Documents, Observation, Interview and Questionnaire.
Data Processing-Editing, Coding and Tabulation, The Use of Computer.
Report Writing.

UNIT-III

Sampling-Meaning, Types, Merits and Demerits.
Frequency Distribution – Meaning and Steps.
Measures of Central Tendency – Mean, Median and Mode.

UNIT-IV

Measures of Dispersion –Standard Deviation.
Correlation – Karl Pearson.
Chi-Square

Essential Readings :

Goode, W.J., & Hatt, P.K. (1990). *Methods in Social Research*. U.S.A. : McGraw Hill.
Gupta ,S.P. (1987) . *Statistical Methods*. New Delhi : Sultan Chand .
Moser, C.A. & Kalton. G. (1979).*Survey Methods in Social Investigations*. London : ELBS
Seltiz,C.et al. (1964) . *Research Methods in Social Relations* . New York : Rinehart & Winston.

Further Readings :

Bowley, A. (1947). *Elements of Statistics* (6th ed.) . New York : Staples.
Cohen, L. (1968) . *Statistical Method for Social Scientists* .New Delhi : Prentice Hall of India Private Ltd.
Ghosh., and Chowdhry. (2004). *Statistics* (Rev. Enlarg. Ed.) Allahabad : Indian Press.

PUBLIC ADMINISTRATION SEMESTER-VI

PAPER IV : The candidates have to select one out of the following four options :

- Option (i) : Organisation Behaviour**
- Option (ii) : Cooperative Administration in India**
- Option (iii) : Public Enterprise Management (with special reference to India)**
- Option (iv) : Environment Administration in India**
- Option (v) : Emerging Issues in Public Administration**

Paper- IV : OPTION (i) : ORGANISATION BEHAVIOUR

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hours |

Objective of the Paper :

The objective of the paper is to give the student an in-depth insight into the various aspects and factors affecting individual, interpersonal and group behaviors in organisations. The key areas include study of human behavior and concepts like Attitudes, Morale, Leadership, Motivation and Organizational Change.

INSTRUCTIONS FOR PAPER-SETTERS AND CANDIDATES :

- For Private/Centre for Distance and Online Education (CDOE) students, who have not been assessed earlier for the internal assessment, the marks secured by them in the paper will proportionately be increased in lieu of the internal assessment.

The Paper-Setter must put a note in question paper in this regard.

- The candidate shall attempt 5 questions in all (one compulsory and one each from four units). The first compulsory question shall comprise of 12 short-answer type questions, covering the whole syllabus, to be answered in 25-30 words each, out of which the candidate would be required to attempt any 9. Each question will carry 2 marks. Rest of the paper shall contain 4 units, each unit having two questions, out of which the candidate would be required to attempt one. Each question will carry 18 marks.

UNIT-I

Organisation Behaviour : Concept and significance

Individual Behaviour : Concept; Nature; Individual Factors

Interpersonal Relations : Meaning; Dimensions; Factors

UNIT-II

Team Development : Importance; Types of Teams

Attitudes : Concept, Types

Morale : Concept; Significance; Building up High Morale

UNIT-III

Groups : Concept; Types
 Leadership : Styles of Leadership
 Motivation : Concept; Determinants

UNIT-IV

Organisational Change : Concept; Resistance to change
 Organisational Development : Concept; Need; Techniques
 Organisational Effectiveness : Concept; Approaches

Essential Readings :

Davis, K. (2001). *Organizational Behaviour* . New York: McGraw Hill.
 Dubin, R. (1968). *Human Relations in Administration*(3rd ed.), New Delhi: Prentice Hall.
 Gupta, S. & Joshi, R. (2007). *Organizational Behaviour* . New Delhi: Kalyani Publishers.
 Kolasa, B.J. (1969). *Introduction to Behavioural Sciences for Business*. New York: Wiley.
 Prasad , L.M.(2000). *Organisational Behaviour*(3rd ed.).New Delhi: Sultan Chand
 Sharma, K.K. & Sahni, P. (1988). *Organisational Behaviour* . New Delhi: Deep & Deep.

Paper- IV: OPTION (ii) : CO-OPERATIVE ADMINISTRATION IN INDIA

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hours |

Objective of the Paper :

The objective of the paper is to acquaint the students with the evolution of cooperatives in India and its Principles. It will also deal with Legislation on Cooperatives, Registration, structure and Administration at the Union and State level. Further the students will gain an understanding of the forms and Role of Cooperatives, their managerial & personnel aspects.

INSTRUCTIONS FOR PAPER-SETTERS AND CANDIDATES :

- For Private/Centre for Distance and Online Education (CDOE) students, who have not been assessed earlier for the internal assessment, the marks secured by them in the paper will proportionately be increased in lieu of the internal assessment.

The Paper-Setter must put a note in question paper in this regard.

- The candidate shall attempt 5 questions in all (one compulsory and one each from four units). The first compulsory question shall comprise of 12 short-answer type questions, covering the whole syllabus, to be answered in 25-30 words each, out of which the candidate would be required to attempt any 9. Each question will carry 2 marks. Rest of the paper shall contain 4 units, each unit having two questions, out of which the candidate would be required to attempt one. Each question will carry 18 marks.

UNIT-I

Co-operation : Meaning, Significance and Evolution

Co-operative Principles

Co-operative Legislation : Government of India Act, 1912 and Punjab Co-operative Societies Act, 1961(as amended from time to time)

UNIT-II

Registration of a Co-operative Society

General Body, Board of Directors and Committees

Chief-Executive : Appointment, Functions and Role

Co-operative Administration at Union Level – Organisation and Functions

UNIT-III

Co-operative Department at State Level – Organisation and Functions

Registrar Co-operative Societies : Appointment and Role

Forms of Co-operatives : Role of Apex Federations and Primary Co-operatives

Co-operative Education

UNIT-IV

Human Resource Management : Recruitment and Training

Financial Management

Essential Readings :

Dubhashi, P.R. (1970) . *Principles and Philosophy of Cooperation* . Pune: VMNICM.

Goel, B.B. (1988). *Dynamics of Cooperative Administration* . Delhi: Deep and Deep.

Goel , S.L., & Goel, B.B. (1979). *Principles, Problems and Prospects of Co-operative Administration* .Delhi: Sterling.

Kamra, P.K. (1986) .*Cooperative Management* . Delhi: Deep and Deep.

Krishnaswami, O.R. (1978) . *Fundamentals of Cooperatives* .Delhi: S.Chand and Co.

Mathur, B.S.(1971). *Cooperation in India*. Agra: Sahitya Bhawan.

Further Readings :

Bhatia, B.S. (ed.). (1994). *Encyclopaedia of Cooperative Management*. New Delhi: Deep & Deep Publications Pvt. Ltd.

Dwivedi, R.C. (1982).*Democracy in Cooperative Movement*.New Delhi. National Cooperative Union of India.

Gill , M.S. (1983).*Agricultural Cooperatives* .Delhi: Vilas.

I.C.A. (1977).*Readings in Cooperative Management*.Delhi: ICA.

I.C.A. (1980).*Experts Consultation on Cooperative Member Education* . Delhi: ICA.

I.L.O.(n.d.).*Cooperative Management and Administration* .Geneva: I.L.O.

Puri, S.S.(1979). *Ends and Means of Cooperative Development* . Delhi: NCUI

Paper-IV: OPTION (iii): PUBLIC ENTERPRISE MANAGEMENT (WITH SPECIAL REFERENCE TO INDIA)

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3Hours |

Objective of the Paper :

The objective of the paper is to give the student a detailed understanding of the concept, evolution, types, role and problems of public enterprises in India. It would also give an insight into legislative and government control over public enterprises, performance and reforms of the public enterprises and the concept of privatization.

INSTRUCTIONS FOR PAPER-SETTERS AND CANDIDATES:

- For Private/Centre for Distance and Online Education (CDOE) students, who have not been assessed earlier for the internal assessment, the marks secured by them in the paper will proportionately be increased in lieu of the internal assessment.

The Paper-Setter must put a note in question paper in this regard.

- The candidate shall attempt 5 questions in all (one compulsory and one each from four units). The first compulsory question shall comprise of 12 short-answer type questions, covering the whole syllabus, to be answered in 25-30 words each, out of which the candidate would be required to attempt any 9. Each question will carry 2 marks. Rest of the paper shall contain 4 units, each unit having two questions, out of which the candidate would be required to attempt one. Each question will carry 18 marks.

UNIT-I

Public Enterprise : Meaning and Evolution
 Public Enterprises in India : Rationale and Role
 Administrative and Managerial Problems of Public Enterprises

UNIT-II

Organisational Patterns: Departmental Undertakings, Public Corporation and Government Company
 Board of Directors: Rationale, Constitution, Types and Functions

UNIT-III

Legislative Control over Public Enterprises
Government Control over Public Enterprises
Performance of Public Enterprises

UNIT-IV

Public Enterprise Reforms since 1991
Memorandum of Understanding
Privatization : Meaning, Rationale, Achievements and Failures

Essential Readings :

Dutt, Ruddra and Sundaram, K.P.M. (2009) *Indian Economy* . New Delhi: S. Chand.
Khera, S.S. (1977) . *Government in Business* . Delhi : National.
Mathur, B.P. (1999) .*Public Enterprise Management* . New Delhi :Macmillan
Narain, Laxmi . (2005). *Public Enterprise Management and Privatisation* . New Delhi :S. Chand.
Parkash, Jagdish . (2002). *Administration of Public Enterprises in India* . Mumbai :Himalaya Publishing House.
Sengupta , N.K. (2007) . *Government and Business* . New Delhi :Vikas.

Further Readings:

Gedam, Ratnakar. (1995) . *Public Sector Management*.
Government of India. *Public Enterprises Survey, India, Ministry of Heavy Industry & Public Enterprises, Vol. 1, 2, 3* .DPE. New Delhi.
Gupta, K.R. (1975) . *Issues in Public Enterprises* . New Delhi: S.Chand.
Hanson , A.H. (1972).*Public Enterprises and Economic Development* . London : Routledge and Kegan.
Ramanadham, V.V.(1988). *The Working of Public Sector* . Bombay : Allied Publishers.
Ramanadham , V.V. *The Structure of Public Enterprises and Economics in India* . Bombay: Asia Publishing House.
United Nations. (1974). *Countries* . New York : V. N.

Paper-IV: OPTION (iv): ENVIRONMENT ADMINISTRATION IN INDIA

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

Objective of the Paper :

The objective of the paper is to give the student an in-depth understanding of the concept and components of environment, environment administration and sustainable development. In addition, the students would be made aware of environment problems, threats and impact of development on environment. The student will also gain knowledge regarding the machinery for environment protection at the Union and State levels, Environmental Policy, priorities, global issues and role of NGOs in environment conservation would be dealt with.

INSTRUCTIONS FOR PAPER-SETTERS AND CANDIDATES:

- For Private/Centre for Distance and Online Education (CDOE) students, who have not been assessed earlier for the internal assessment, the marks secured by them in the paper will proportionately be increased in lieu of the internal assessment.

The Paper-Setter must put a note in question paper in this regard.

- The candidate shall attempt 5 questions in all (one compulsory and one each from four units). The first compulsory question shall comprise of 12 short-answer type questions, covering the whole syllabus, to be answered in 25-30 words each, out of which the candidate would be required to attempt any 9. Each question will carry 2 marks. Rest of the paper shall contain 4 units, each unit having two questions, out of which the candidate would be required to attempt one. Each question will carry 18 marks.

UNIT-I

Environment – Concept and Components
 Environment Administration – Meaning, Nature and Scope
 Sustainable Development – Concept, Issues and Strategy

UNIT-II

Environment Problems and Threats–Air, Water, Land, Human Settlements and Forests
 Impact of Development, Urbanization and Industry on Environment
 Organisation and Machinery of the Government at the Union Level for Environment Protection
 Organisation and Machinery of the Government at the State Level for Environment Protection

UNIT-III

Pollution Control Boards—Organisation, Functions and Role

Environmental Policy with special reference to Water, Air and Forest; Constitutional Provisions; Legislative Measures

Environmental Priorities in India—Population Stabilisation; Forest Cover; Deforestation; Wildlife Protection; Recycling of Wastes

UNIT-IV

Environment and Global Issues— Conventions; Depletion of Ozone Layer; Global Warming

Environment Education, Awareness and Ethics; Role of NGOs in Environment Protection and Conservation

Essential Readings :

Chandana, R.C. (1998) .Environment Awareness . New Delhi : Kalyani.

Edmunds, S. and Latey, J. (1973). Environmental administration . New York : McGraw-Hill.

Nanda, V.K. (1997). Environmental Education .New Delhi : Anmol.

Sapru, R.K. (2002) . Development administration . New Delhi : Sterling.

Sapru ,R.K. (2004). Public Policy . New Delhi : Sterling.

Further Readings :

Agnihotri , Sheo Parkash. (1992). *Environment Conservation Management and Planning*. Allahabad : Chugh.

India, Centre for Science and Environment. (1982). *The state of India's Environment : A Citizen's Report* .
New Delhi: Vishal Bhawan.

Kumar, Naresh.(1999) . *Air Pollution and Environment Protection : Legislative Policies, Judicial Trends and Social Perceptions* . New Delhi : Mittal.

Kumar, Naresh.(1999). *Air Pollution and Environment Protection:Legislative Policies,Judicial Trends and Social Perceptions* . New Delhi:Mittal

Monga, G.S. (2004).*Environment and Development* . New Delhi : Deep and Deep.

Radha, S. and Sankhyan, A.S.(2004). *Environmental Challenges of the 21st Century* . New Delhi:
Deep.

PAPER- IV: OPTION (V): Emerging Issues in Public Administration

| | |
|----------------------|----------|
| Max. Marks: | 100 |
| Theory: | 90 Marks |
| Internal assessment: | 10 Marks |
| Time: | 3 Hours |

Objective of the Paper:

The purpose of this course is to familiarize the students with the emerging issues in Indian Administration. At the end of the course the students will have an understanding of the concepts of disaster management, human rights, regulatory administration in India, consumer protection, right to information, new areas of governance in India.

INSTRUCTIONS FOR PAPER-SETTERS AND CANDIDATES

- For Private/Centre for Distance and Online Education (CDOE) students, who have not been assessed earlier for the internal assessment, the marks secured by them in the paper will proportionately be increased in lieu of the internal assessment.

The Paper-Setter must put a note in question paper in this regard.

- The candidate shall attempt 5 questions in all (one compulsory and one each from four units). The first compulsory question shall comprise of 12 short-answer type questions, covering the whole syllabus, to be answered in 25-30 words each, out of which the candidate would be required to attempt any 9. Each question will carry 2 marks. Rest of the paper shall contain 4 units, each unit having two questions, out of which the candidate would be required to attempt one. Each question will carry 18 marks.

Unit I

Good governance – Concept and significance
 E- governance – Concept and significance
 Regulatory Administration - Concept and significance

Unit II

Transparency and Accountability in Administration – Significance
 Mechanism – Social Audit, Results Framework Document (RFD)
 Ethics and Integrity in Administration

Unit III

Human Rights - Concept and significance
 Women Empowerment with special reference to National Mission for Empowerment of Women (NMEW)
 Youth Empowerment with special reference to Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

Unit IV

Sustainable Development - Concept and significance
 Environment Administration - Concept and significance
 Disaster Management - Concept and significance

Suggested Readings :

- Arora , Ramesh K. (2013). *Ethical Governance in Business and government*. Jaipur : Aalekh Publishers.
- Bhandari, Sunanda (2015).*MahilaSashaktikaranEvamRajkiyaYojanaye*. Jaipur: Ritu Publications.
- Bystydzienski, Jill M. (2008).*Democratization & Women’s Grassroot Movements*. JotiSekhon. Zubaan.
- Centre for Good Governance.Social Audit Tool Kit,”n.d” from www.cgg.gov.in
- Food & Agricultural Organization (F.A.O.).*A handbook for trainers on participatory local development: The Panchayat & Training Module on social Audit*
- Kawadia, Ganesh & Ahuja, Kanhaiya. (2006) .*Environmental Issues of Development*.AmbalaCantt, India: The Associated Publishers.
- Goel, S.L. (2006).*Encyclopedia of Disaster Management*, Deep and Deep Publication Pvt. Ltd.
- Government of India. *Guidelines for Results Framework Document(RFD)*. “n.d” retrieved from www.performance.gov.in
- Government of India. (2006,September). *Second ARC – Third Report (Crises Management: From Despair to Hope)*.
- Government of India.(2006,june) . *Second ARC – First Report (Right to Information- Master Key to Good Governance)*.
- Government of India. (2008,December). *Second ARC – Eleventh Report (Promoting e-governance: The Smart Way Forward)*.
- Government of India.Ministry of Skill Development and Entrepreneurship-“ n.d” retrived from www.skilldevelopment.gov.in/pmkvy.html
- Government of India. *Ministry of Women & Child Development*, “n.d” retrieved from www.nmew.gov.in.
- Government of India. *E-governance for Citizen Empowerment National Information Centre*. ‘n.d’ retrieved from www.nic.in
- Mohanty, Jagannath. (2005). *Human Rights: New Trends and Innovations*. New Delhi: Deep & Deep.
- Verma, J.S. (2006). *The Universe of Human Rights*. Delhi: Universal Law Publishing Company.
- Kumar, Abhishekand Tripathy, Pramod Kumar.*Skill Development in India – An Overview of Initiatives& Schemes*. New Delhi: Kanishka Publishers.
- Mathur, B.P. (2014). *Ethics for Governance: Reinventing Public Services*. India: Routledge.
- Jaswal, P.S.and Jaswal, Nishtha. (2000). *Environmental Law* . Pioneer Publications.
- Palekar, S.A. (2012). *Development Administration*. New Delhi: PHI Learning Private Limited.
- Manisha Priyam; Menon Krishna and Banerjee, Madhulika. (2009). *Human Rights, Gender and the Environment*. Pearson.
- Trivedi, Priya Ranjan. (1999). *Encyclopedia of Ecology and Environment Volume 3 Environmental Education*. New Delhi :Indian Institute of Ecology and Environment.
- Vayunandan, E. and Mathew, Dolly. (2003). *Good Governance Initiatives in India*. New Delhi : Prentice Hall of India.

ANCIENT INDIAN HISTORY, CULTURE & ARCHAEOLOGY

SEMESTER – V

Note : The students shall have to opt for one paper for Semester - V examination out of the following two papers :

Outlines of Test :

Paper V : Archaeology
 Paper VI : Spread of Indian Culture In Central Asia, China And Tibet

Paper-V: ARCHAEOLOGY

| | |
|----------------------------|------------------|
| Total Marks | : 100 |
| Theory | : 90 |
| Internal assessment | : 10 |
| Time | : 3 Hours |

Objectives :

This course is a survey of the pre and proto historic background to Indian history from the earliest times to the early historical period. Excavated sites are studied for an insight into the growth and development of early Indian culture.

Pedagogy of the CourseWork:

The students are made familiar with prehistoric, proto historic and historical sites. Slides, photographs of relevant sites, their significance in establishing chronologies is discussed in the class. Visits to museums is an important aspect through which students are made familiar with the material evidence.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES:

The syllabus has been divided into four units.

There shall be **9** questions in all. All questions carry equal marks. The first question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions. It shall carry 18 marks i.e. 2 marks of each and shall be **compulsory** question. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all.

UNIT-I:

The Palaeolithic, Mesolithic and Neolithic cultural sequences in various parts of the Indian subcontinent.

UNIT-II:

- (a) The background and the phenomenon of the Harappan civilization.
- (b) The Chalcolithic cultures of western and southern India

UNIT-III:

The beginning of iron technology and the Painted Grey Ware Culture.

UNIT-IV :

Excavations of early historic cities of :

- (a) Northern India and Gangetic doab : Taxila and Hastinapura.
- (b) Eastern India : Sisupalgarh and Chandraketugarh.
- (c) Southern India : Arikamedu and Brahmagiri.

Essential Readings :

1. Agrawal, D.P. : The Archaeology of India, Select Book Service Syndicate, New Delhi, 1984.
2. Allchin, B. and F.R. : The Rise of Civilization in India and Pakistan, Cambridge University Press, New Delhi, 1989.
3. Fagan, Brian M. : People of the Earth : An Introduction to Longman, Singapore, 2004.
4. Possehl, G. : Ancient Cities of the Indus, Vikas Publishers, New Delhi, 1979.
5. Ratnagar, S. : Understanding Harappa, Tulika, New Delhi, 2001.

Suggested Readings :

1. Roy, T.N. : The Ganges Civilization a critical archaeological study of the painted grey ware and northern black polished ware periods of the ganga plains of India, Ramanand Vidya Bhawan, New Delhi, 1983.
2. Tripathi, V. : The Painted Grey Ware An Iron Age Culture of Northern India Concept, Publisher Corporation, Delhi, 1976.

Paper VI: SPREAD OF INDIAN CULTURE IN CENTRAL ASIA, CHINA AND TIBET

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hours |

Objective :

1. The primary aim of this paper is to make the students study the spread of Indian culture and ideas in Central Asia, China and Tibet, generally termed in history as 'Greater India'. This forms an important phase of India's contribution to the world culture.

2. Pedagogy of the Course Work :

It is expected to acquaint the students with the background of Indian culture's spread and the factors responsible for it. While outlining the spread of Indian culture and religion, the spread of art, architecture and literature should also be taken care of. Visual aids wherever required should be used to familiarize students with Indian art and its influence in these countries.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

The syllabus has been divided into four units.

There shall be **9** questions in all. All questions carry equal marks. The first question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions. It shall carry 18 marks i.e. 2 marks of each and shall be **compulsory** question. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all.

UNIT-I:

Spread of Indian Culture in the Central Asian States.

UNIT-II:

Introduction of Buddhism in China and the early contacts.

UNIT-III:

Chinese pilgrims in India – Fahien, Hiuen Tsang and I-Tsang.

UNIT-IV:

- (a) Spread of Buddhism in Tibet up to 12th century A.D. with special reference to the missions of Padma Sambhava.
- (b) Lamaism.

Essential Readings :

1. Bagchi, P.C. : *India and Central Asia*, National Council of Education Bengal, Calcutta, 1984.
2. Bapat, P.V. : *2500 Years of Buddhism*, South Asian Books, New Delhi, 1977.
3. Douglas, R : *China (The Story of the Nation)*, Hesperidis, London, 1900, 2006.
4. Elliot, C. : *Hinduism and Buddhism*, Vols. II and III, Routledge, London, 1962.
5. Puri, B.N. : *Buddhism in Central Asia*, Motilal Banarsidass, Delhi, 1987.

Suggested Readings :

1. Upasak, C.S. : *History of Buddhism in Afghanistan*, Central Institute of Higher Tibetan Studies, Varanasi, 1990.
2. Waddell, A.L. : *Buddhism and Lamaism of Tibet* rpt., Vimar Publishing House, London, 1979.

ANCIENT INDIAN HISTORY, CULTURE & ARCHAEOLOGY

SEMESTER – VI

Note : The students shall have to opt for one paper for Semester - VI examination out of the following two papers :

Outlines of Test :

- Paper VII : Epigraphy and Numismatics
 Paper VIII : Spread of Indian Culture in South-East Asia upto 12th Century A.D.

Paper-VII : EPIGRAPHY AND NUMISMATICS

| | | |
|---------------------|---|---------|
| Total Marks | : | 100 |
| Theory | : | 90 |
| Internal Assessment | : | 10 |
| Time | : | 3 Hours |

Objectives :

The paper is aimed to prepare students to handle the original source material – inscriptions and coins, which make the backbone of Ancient Indian History, as without the knowledge of epigraphy and numismatics, the subject cannot be mastered.

Pedagogy of the CourseWork:

Students should be familiarized with the each topic in detail. Visual aids like the photographs/slides of the coins and inscriptions shall be used regularly. The decipherment of Asokan inscriptions shall be taught with the help of plates and paleographic charts to the students.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

The syllabus has been divided into four units.

There shall be **9** questions in all. All questions carry equal marks. The first question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions. It shall carry 18 marks i.e. 2 marks of each and shall be **compulsory** question. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all.

UNIT-I:

- (a) Origin and antiquity of writing in India with special reference to the origin of Brahmi script.
- (b) Origin and antiquity of coinage in India.

UNIT-I

- (a) Ashokan inscriptions – Pillar Edicts I to IV; Girnar Rock Edicts I, II and XIII. (Both for study and decipherment).
- (b) Besnagar Pillar inscription of Heliodorus; Nasik Cave Inscription of Queen Balasri; Sarnath Buddha Image inscription of Kanishka's year 3; Junagarh Rock inscription of Rudradaman I, Saka year 72. (Study only). Gupta inscriptions—Allahabad Pillar inscription of Samudragupta, Mehrauli Iron Pillar inscription of Chandra, Bhitari Stone Pillar inscription of Skandagupta (Study only).

- (c) Post-Gupta inscriptions : Mandasor Stone inscription of Malava Samvat 589, Banskhera Copper-plate of Harshavardhana, Pehowa inscription of Bhojadeva (Study only).

UNIT-III:

- (a) Coins as source of ancient Indian history.
(b) Study of Punch marked coins.

UNIT-IV:

- (a) Coins of the Kushanas.
(b) Coins of the Guptas.

Essential Readings :

1. Allan, John : *Catalogue of the Coins of Ancient India*, Trustees of the British Museum, London, 1967
2. Altekar, A.S. : *Coinage of the Gupta Empire*, Numismatic Society of India, Varanasi, 1957.
3. Buhler, G., : *Indian Paleography*, Munshiram Manoharlal, New Delhi, 2004
4. Dani, A.H., : *Indian Paleography*, Munshiram Manoharlal, New Delhi, 1997

Suggested Readings :

1. Gupta, P.L. : *Coins*, rpt. National Book Trust India, .New Delhi, 2006.
2. Hultzsh, E. : *Corpus Inscriptionum Indicarum*, Vol. I, rpt., Archaeological Survey of India, Delhi, 1991.

Paper-VIII : SPREAD OF INDIAN CULTURE IN SOUTH-EAST ASIA UPTO 12TH CENTURY A.D.

| | |
|----------------------|---------|
| Total Marks : | 100 |
| Theory : | 90 |
| Internal Assessment: | 10 |
| Time : | 3 Hours |

Objectives:

This course enlightens the students about the spread of Indian culture in Burma, Indonesia, Cambodia and Champa. In order to teach the students about the elements of Indian Culture, which made its impact felt in those countries, it is, therefore, necessary to discuss the political history, art, architecture and religion of those regions.

Pedagogy of the CourseWork:

The students are taught with the help of slides, photographs and maps. In addition to it, lectures, workshops, seminars, written assignments, class discussions and term papers are essential component of this course.

INSTRUCTIONS FOR THE PAPER-SETTER AND THE CANDIDATES :

The syllabus has been divided into four units.

There shall be 9 questions in all. All questions carry equal marks. The first question shall be short answer type containing 15 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions. It shall carry 18 marks i.e. 2 marks of each and shall be **compulsory** question. Rest of the paper shall contain 4 units. Each unit shall have **two** questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4 in all.

UNIT-I:

- (a) Beginning of Indianisation in Burma.
- (b) Art and Religion of Burma.

UNIT-II:

- (a) Beginning of Indianisation in Indonesia.
- (b) Study of Indo-Javanese Art.

UNIT-III:

- (a) Beginning of Indianisation in Cambodia.
- (b) Art of Cambodia.

UNIT-IV:

- (a) Beginning of Indianisation in Champa.
- (b) Study of Art and Archaeological remains of Champa.

Essential Readings :

- 1. Chatterji, B.R. : *Indian Cultural Influence in Cambodia*, University of Calcutta, Calcutta, 1933.
- 2. Coedes, C. : *The Making of South East Asia*, University of California Press, London, 1966
- 3. Coomaraswamy, A.K. : *History of Indian and Indonesian Art*, Kessinger Publishing, New Delhi, 1972.
- 4. Harrison, Brian, : *South East Asia, A Short History*, Macmillan Press, New York, 1966 .
- 5. Majumdar, R.C. : *Hindu Colonies in the Far East*, K.L. Mukhopadhaya, Calcutta, 1944.

Suggested Readings :

- 1. Majumdar, R.C. : *Suvarnavdipa, Ancient Indian Colonies in the Far East*, Modern Publication Syndicate, 1937.
- 2. Majumdar, R.C. : *Kambuja-Desa, or An Ancient Hindu Colony in Cambodia*, Lighting Source Incorporated, Madras, 1944.
- 3. Singhal, D.P. : *India and World Civilization*, Vols. I & II, Michigan State University Press, Calcutta, 1972.

POLICE ADMINISTRATION

SEMESTER V

Semester V: Police Procedures and Investigation-I

(A) Course Objectives:

The course has been designed to impart students knowledge about the procedures followed and investigation done by the police after the incidence of crime. The students will be taught about the crime scene, its importance, inspection of crime scene and its preservation along with the investigation officer and his/ her role. Further the students would be made aware about investigation, interrogation and interview techniques with a focus on witnesses, women and juvenile offenders.

(B) Pedagogy of the Course Work:

90 per cent of the Course Content would be delivered through Lecture Method and rest 10 per cent would comprise of :

- i. Internal Test-5%;
- ii. Academic activities (Seminar, Project, Assignment)-3%;
- iii. Attendance-2%

(C) Instructions for Paper Setters and Candidates:

- The maximum marks for the paper will be 100. The question paper will be of 90 marks and internal assessment of 10 marks.
- Time allowed will be 3 hours.
- There shall be 9 questions in all.
- The first question shall be compulsory and be short answer type containing 12 short questions spread over the whole syllabus and to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 2 marks (9x2 = 18 marks).
- Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall have two questions and the candidates shall attempt one question from each unit i.e. four questions in all. Each question will carry 18 marks (4x18 = 72 marks)

(D) Course Content:

Unit-I

Investigating Officer: Power of observation and its importance in Investigation; and Qualities of investigating officer.

Unit-II

Crime Scene: importance of crime scene; inspection of crime scene; and preservation of crime scene.

Unit-III

Investigation; interrogation; and interviews.

Unit-IV

Examination of witnesses; interrogation of women accused; and interrogation of juvenile offenders.

Essential Readings:

1. Adams, Thomas F. : Police Field Operations, Prentice Hall, New Jersey, 1998.
2. Petraco, Nicholas & Sherman, Hal : Illustrated Guide to Crime Scene Investigation, C.R.C. Press, Taylor & Francis Group Boca Raton, London, 2006.
3. Williams, J.E. Hall : The Role of the Prosecutor, Avebury, Gower Publishing Company, Ltd., England, 1988.
4. Carter, Robert E. : Arson Investigation, Glencoe Publishing Co., California, 978.
5. International Association: Criminal Investigation: Basic Procedures, Bureau of of Chiefs of Police Operations and Research, Maryland, USA 1975.
6. Fuqua, Paul & Wilson, Jerry V. : Security Investigator's Handbook, Gulf Publishing Company, London, 1979.
7. Vadackumchery, James : Professional Police Witness Interviewing, A.P.H. Publishing Corporation, New Delhi, 1999.

Further Readings

1. Singh, S.P. : Combating Bio- terrorism with Special Reference to Anthrax Bacteria, Reliance Publishing House, New Delhi, 2002.
2. Dutta, K.K. : Some Aspects of Criminal Law, A.P.H. Publishing Corporation, New Delhi, 1998.
3. Ghosh, S.K. and Rustamji, K.F. : Encyclopaedia of Police in India, Volume III Ashish Publishing House, New Delhi, 1997.
4. Vadackumchery, James : Indian Police and Miscarriage of Justice, A.P.H. Publishing Corporation, New Delhi, 1997.
5. Vadackumchery, James : Police, the Court and Injustice, A.P.H. Publishing Corporation, New Delhi, 1997.
6. Sharma, R : Human Rights and Bail, A.P.H. Publishing Corporation, New Delhi, 2002.

POLICE ADMINISTRATION

SEMESTER VI

Semester VI: Police Procedures and Investigation-II

(A) Course Objectives:

The objective of this course is to introduce to the students about the use of scientific techniques in the field of investigation. After providing knowledge in death, types of death and bodily changes after death, the students would be imparted information on how to preserve finger prints, footprints, knowledge about handling of physical evidences, along with their packing and forwarding. In addition knowledge about the modern tools of investigation would also be provided.

(B) Pedagogy of the Course Work:

90 per cent of the Course Content would be delivered through Lecture Method and rest 10 per cent would comprise of :

- i. Internal Test-5%;
- ii. Academic activities (Seminar, Project, Assignment)-3%;
- iii. Attendance-2%

(C) Instructions for Paper Setters and Candidates:

- The maximum marks for the paper will be 100. The question paper will be of 90 marks and internal assessment of 10 marks.
- Time allowed will be 3 hours.
- There shall be 9 questions in all.
- The first question shall be compulsory and be short answer type containing 12 short questions spread over the whole syllabus and to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 2 marks (9x2 = 18 marks).
- Rest of the paper shall contain 4 units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall have two questions and the candidates shall attempt one question from each unit i.e. four questions in all. Each question will carry 18 marks (4x18 = 72 marks).

(D) Course Content:**Unit-I**

Death; Types of death- death due to suffocation hanging, drowning, accident, suicide and murder. Bodily changes after death.

Unit-II

Preservation of finger prints, footprints, and blood at the scene of crime.

Unit-III

Physical evidence, handling packing and forwarding of physical evidence, and types of opinion to be obtained from physical evidence.

Unit-IV

Photography and its importance in police work; Polygraph; Brain mapping; and Narco Analysis.

Essential Readings:

1. Adams, Thomas F. : Police Field Operations, Prentice Hall, New Jersey, 1998.
2. Petraco, Nicholas & Sherman, Hal : Illustrated Guide to Crime Scene Investigation, C.R.C. Press, Taylor & Francis Group Boca Raton, London, 2006.
3. Williams, J.E. Hall : The Role of the Prosecutor, Avebury, Gower Publishing Company, Ltd., England, 1988.
4. Carter, Robert E. : Arson Investigation, Glencoe Publishing Co., California, 1978.
5. International Association : Criminal Investigation: Basic Procedures, Bureau of of Chiefs of Police Operations and Research, Maryland, USA, 1975.
6. Fuqua, Paul & Wilson, Jerry V. : Security Investigator's Handbook, Gulf Publishing Company, London, 1979.
7. Vadackumchery, James : Professional Police Witness Interviewing, P.H. Publishing Corporation, New Delhi, 1999.

Further Readings

1. Singh, S.P. : Combating Bio- terrorism with Special Reference to Anthrax Bacteria, Reliance Publishing House, New Delhi, 2002.
2. Dutta, K.K. : Some Aspects of Criminal Law, A.P.H. Publishing Corporation, New Delhi, 1998.
3. Ghosh, S.K. and Rustamji, K.F. : Encyclopaedia of Police in India, Volume III Ashish Publishing House, New Delhi, 1997.
4. Vadackumchery, James : Indian Police and Miscarriage of Justice, A.P.H. Publishing Corporation, New Delhi, 1997.
5. Vadackumchery, James : Police, the Court and Injustice, A.P.H. Publishing Corporation, New Delhi, 1997.
6. Sharma, R : Human Rights and Bail, A.P.H. Publishing Corporation, New Delhi, 2002.

MUSIC (VOCAL AND INSTRUMENTAL) SEMESTER-V

General Instructions:-

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. Harmonium will not be allowed as accompaniment in vocal music, but harmonium can be used while singing Alankars.
3. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper also to be sent.
4. There will be ten questions in five units. The candidates will be required to attempt any five questions selecting at least one from each unit.
5. Separate Practical paper shall be set for each session from the syllabus prescribed for Practical Paper- B.
6. There should not be more than eight students in a batch for practical examination.
7. There would be upto ten students in one section in practical class.

Paper:-(Theory)

| | |
|---------------------|------------|
| Total Marks | : 50 |
| Theory | : 45 Marks |
| Internal Assessment | : 05Marks |
| Time | : 3 Hours |

Note: There will be 10 questions in all and a student will attempt five questions choosing at least one from each unit.

UNIT-I

1. Definition with full explanation of the following :-
Sthai, Antra, Khataka, Badhat, Jod-Alap, Lag Daat, Jugalbandi, Layakaries (Adi, Kaudi, Biadi)
2. Embellishment of Swaras.

UNIT-II

1. Definition of Aesthetics in context of Indian Music
2. Rasa Sidhanta of Bharat
3. Education in Indian Classical Music- its merits and demerits.

UNIT-III

1. Essay on Sangeet Sammelan
2. Knowledge of good qualities of a music performer (Vocalist or an Instrumentalist)
3. Elementary Knowledge of Harmonium,Tabla,Sitar

UNIT-IV

1. Description of Detailed & Non-detailed Ragas:-

1. Detailed Raga :-
 (i) Marwa (ii) Purvi
2. Non-detailed Raga: -
 (i) Sohni (ii) Paraj
3. Talas:- Tivra, Sultal

UNIT-V

The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions carrying 01 marks each.

Paper B: Practical (Choice & Viva)

| | | |
|--------------------------------------|---------------------|--------------|
| | | : 45 Marks |
| | Internal Assessment | : 05 Marks |
| | Time | : 45 Minutes |
| (a) Choice (Solo performance) | : | 22.5 Marks |
| (b) Practical Test | : | 22.5 Marks |
| (i) Tuning | : | 5 Marks |
| (ii) Capacity to play Talas on Tabla | : | 2.5 Marks |
| (iii) Capacity to play Harmonium | : | 2.5 Marks |
| (iv) Viva | : | 12.5 Marks |

Part-A: (CHOICE OF THE CANDIDATE)

- (a) A candidate has to demonstrate in the Raga of his/her choice from the prescribed ragas with detailed elaborations:

- | | | |
|-----------------------|---|-----------|
| (i) A Vilambit Khayal | : | 7.5 marks |
| (ii) A Drut Khayal | : | 5 marks |

OR

- | | | |
|--------------------|---|-----------|
| (i) A Vilambit Gat | : | 7.5 marks |
| (ii) A Drut Gat | : | 5 marks |

- | | |
|----------------------|-----------|
| (b) One Dhamar | 2.5 marks |
| (c) Lokgeet, Lokdhun | 2.5 marks |

Part-B: (VIVA)

- (a) List of Detailed Ragas:
 (i) Marwa
 (ii) P u r v i
- (b) Non-detailed Ragas, description with Aroh, Avroh and pakad in the following Ragas:
 (i) Sohni
 (ii) Pardi
- (c) Talas : Tivara, Sultal on Tabla.
 (i) One slow khayal with extempore Alaps and Tanas in any of the detailed Ragas.

OR

One slow Gat with extempore Alaps and Toras in any of the detailed Ragas.

- (ii) Two fast khayals or two fast gats with elaboration in each of the prescribed Ragas. 2.5 marks
- (iii) Ability to recite Tivra, Jhoomra, and Punjabi talas in single .
- (iv) Tuning of your instrument. 2.5 marks
- (v) Capacity to play on Tabla the Talas prescribed in the course. 2.5 marks
- (vi) Capacity to play on the Harmonium any raga from the choice. 2.5 marks

Books Recommended:

- | | | |
|--|---|--|
| 1. Sangeetanjali | : | Pt. Onkar Nath Thakur |
| 2. Abhinav Geetanjali | : | Pt. Ramashray Jha |
| 3. Saras Sangeet | : | Pradeep Kumar Dixit |
| 4. Aakashvani Evam Hindustani Shastriya Sangeet | : | Dr. Suchismita |
| 5. Sangeet Visharad | : | Basant |
| 6. Raag Parichay | : | Harish Chandra Srivastav |
| 7. Sangeet swarit | : | Dr. Ramanand Dwivedi |
| 8. Sangeet Prabodhika | : | Dr. Parmanand Bansal Dr. Gyan Chand |

MUSIC (VOCAL AND INSTRUMENTAL)

SEMESTER-VI

General Instructions:-

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. Harmonium will not be allowed as accompaniment in vocal music, but harmonium can be used while singing Alankars.
3. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper also to be sent.
4. There will be ten questions in five units. The candidates will be required to attempt any five questions selecting at least one from each unit.
5. Separate Practical paper shall be set for each session from the syllabus prescribed for Practical Paper- B.
6. There should not be more than eight students in a batch for practical examination.
7. There would be upto ten students in one section in practical class.

Paper--Theory

| | |
|---------------------|------------|
| Total Marks | : 50 |
| Theory | : 45 Marks |
| Internal Assessment | : 05Marks |
| Time | : 3 Hours |

UNIT – I

1. Definition with full explanation of the following :-
 1. Kalavant,
 2. Vaggeykar,
 3. Swarsthan Niyam

UNIT-II

1. Essays:-
 - i Role of Music in National Integration
 - ii Role of internet in promotion of Indian classical music
 - iii Music Appreciation
 - iv Elementary knowledge of Research Methodology in Indian music

UNIT-III

1. Impact of Western Music on Indian Music
2. Study of folk Instruments of Punjab: Dhol, Rabab, Daf, Algoza, Chimta, Dholak, Sarangi
3. Study of Dakshini Music System of the following:-
 - i Swara
 - ii Raga
 - iii Tala

UNIT-IV

1. Description of Detailed & Non-detailed Ragas: -
 1. Detailed Raga: - (i) Patdeep
(ii) Megh Malhar
 2. Non-detailed Ragas: - (i) Bhimpalasi
(ii) Madhmad Sarang
 3. Talas:- Tilwada, Adachautal

UNIT-V

The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

Paper B: Practical (Choice & Viva)

45 Marks

Internal Assessment : 05 Marks
Time : 45 Minutes

| | | |
|--------------------------------------|---|------------|
| (a) Choice (Solo performance) | : | 22.5 Marks |
| (b) Practical Test | : | 22.5 Marks |
| (i) Tuning | : | 5 Marks |
| (ii) Capacity to play Talas on Tabla | : | 2.5 Marks |
| (iii) Capacity to play Harmonium | : | 2.5 Marks |
| (iv) Viva | : | 12.5 Marks |

Part-A: (CHOICE OF THE CANDIDATE)

- (a) A candidate has to demonstrate in the Raga of his/her choice from the prescribed ragas with detailed elaborations:
 - (i) A Vilambit Khayal : 7.5 marks
 - (ii) A Drut Khayal : 5 marks

OR

 - (i) A Vilambit Gat : 7.5 marks
 - (ii) A Drut Gat : 5 marks

- (b) Tarana or one Fast Gat in Ektal 2.5 marks
- (c) Any one of the following:- 2.5 marks
Bhav-Geet, Bhajan, Shabad or Dhun
- (a) Ability to write notation of the Vilambit and Drut Gat of Ragas prescribed in the course:-
Patdeep, Megh Malhar

Part-B: (VIVA)

- (a) List of Detailed Ragas:
(i) Patdeep
(ii) Megh Malhar
- (b) Non-detailed Ragas, description with Aroh, Avroh and pakad in the following Ragas:
(i) Bhimpalasi
(ii) Madhmad Sarang
- (c) Talas : Tilwada, Adachartala on Tabla.
(i) One slow khayal with extempore Alaps and Tanas in any of the detailed Ragas. 7.5 marks

OR

One slow Gat with extempore Alaps and Toras in any of the detailed Ragas.

- (d) Geet /Ghazal
- (e) Two fast khayals or two fast gats with elaboration 2.5 marks
in each of the prescribed Ragas.
- (f) Tuning of your instrument. 2.5 marks
- (g) Capacity to play on Tabla the Talas prescribed in the course. 2.5 marks
- (h) Capacity to play on the Harmonium any raga from the choice. 2.5 marks

Books Recommended:

- | | | |
|-------------------------------|---|-------------------------|
| 1. Bhatkhande Sangeet Shastra | : | Pt. Bhatkhande |
| 2. Abhinav Geetanjali | : | Pt. Ramashray Jth |
| 3. Sangeetanjali | : | Pt. Onkar Nath Thakur |
| 4. Raag Parichay | : | Harishchandra Srivastav |
| 5. Sangeet Visharad | : | Basant |
| 6. Sawars Sangeet | : | Pradeep Kumar Dixit |
| 7. Sangeet Swarit | : | Dr. Ramanand Dwivedi |
| 8. Sangeet Prabodhika | : | Dr. Parmanand Bansal |
| | | Dr. Gyan Chand |
| 9. Art Education | : | Janardan Prasad |
| 10. Folk Instruments of | : | Dr. Anil Narula |

HOME SCIENCE

The syllabus of Home Science for B.A./B.Sc. (Honours) Third year (SEMESTER SYSTEM) has been **KEPT IN ABEYANCE**.

PHYSICS

B.Sc. (HONOURS) THIRD YEAR (5th and 6th Semester) EXAMINATION, 2023-24

General Instructions for teachers, students and paper setters:

1. There will be two papers in each of the Semesters V-VI. Each of the papers is allocated 25 marks including 3(three) marks for the Internal Assessment. The teaching hours for each theory paper are prescribed to be 30 hours and Physics Practical and Computational Physics are prescribed to be 60 hours.
2. The number of lectures per week will be three for each theory paper and six for practicals.
3. The examination time for each theory paper as well as Physics practical paper will be three hours. (The Computational Physics paper will consist of two parts (a) written examination of an duration, and (b) Practical examination of two hours duration. Both the parts carry equal marks).
4. Each theory paper will consist of **seven** questions comprising of three sections .First two sections will comprise of **three** questions from each of Units I and II of syllabus, and the third section will comprise **one compulsory** question of ten short answer type parts covering whole syllabus.The question paper be set for 44 marks-**All the questions in first and second sections will carry 9(nine) marks each and the compulsory question will carry 8 marks**. Student will attempt two questions from each of the first two sections and any eight parts of the compulsory question.**After evaluation of the answer books out of 44 marks, the marks will be given out of 22 marks.**
Computational Physics paper in Semester V will consist of two papers carrying equal marks:
 - (a) Written examination of one and half hour duration common for all the students appearing in examination.
 - (b) Practical examination of one and half hours duration. Both the parts carry equal marks.
5. The numerical problems/exercises in the question paper should be 25-30%.
6. The use of non-programmable calculators will be allowed (paper setters should explicitly mention this on the question paper) in the examination centre but these will not be provided by the University/College. Mobile phones and pages are not allowed in the examination hall.

PHYSICS

B.Sc. (HONOURS) THIRD YEAR (5th and 6th Semester) EXAMINATION, 2023-24

SEMESTER-V

Paper V: Physics of Semiconductors

Unit I

Crystal Properties and Growth of Semiconductors: Semiconductor materials, Crystal lattices, Ge and Si crystal structure, production of electronic grade Si, Bulk crystal growth, Epitaxial growth.

Bonding forces and energy bands in solids, Metals, semiconductors and insulators, Direct and Indirect semiconductors, intrinsic and extrinsic semiconductors, compensation, Electrons and holes, effective mass, Fermi level, Conductivity and mobility, temperature dependence of Carrier concentration, effect of temperature, doping and field on mobility, Hall effect, Invariance of Fermi level at equilibrium.

Excess carriers in semiconductors: Optical absorption, Photoluminescence, Electroluminescence, Carrier lifetime and photoconductivity, photoconductive devices.

Unit II

Diffusion and drift of carriers: Einstein relation, built-in fields in semiconductors with different doping profiles, energy band diagrams. Steady state carrier injection, diffusion length, Haynes-Shockley experiment (qualitative discussion).

pn junction energy band diagrams, forward and reverse-biased junction, calculation of contact potential and depletion width in abrupt junction, diffusion and drift currents, Reverse-bias breakdown, Zener and Avalanche diode. Diffusion and depletion capacitance of pn junction, varactors.

Metal-semiconductor contacts, energy band diagrams of ohmic and rectifying contacts, Schottky diodes.

Recommended Books:

1. Solid State Electronic Devices: Ben Streetman, Sanjay Banerjee (Prentice Hall India, 2005).

Paper VI: Computational Physics

Note : The Computational Physics paper will consist of two parts (a) written examination of one hour duration and (b) Practical examination of two hours duration. Both the parts carry equal marks.

Unit I

C Programming Language

Types of Computer Systems and Operating Systems.

Introduction to Programming : Algorithms, Structured Programming. Basic idea of Compilers.

Data and Statements : Data Types. Constants and Variables. Mathematical, Relational, Logical and Bitwise Operators. Expressions and Statements. Block, Local and Global variables. Auto, Static and External Variables.

I/O Statements : printf, scanf,getc, getch, getchar, getche, etc.

Manipulators for Data Formatting: setw, width, endl and setprecision etc. ASCII Files I/O.

Preprocessor : #include and #define directives.

Control Statements :- If-statement. If-else Statement. Nested if Structure. Else-if Statement.

Ternary Operator. Goto Statement. Switch Statement. Unconditional and Conditional

Looping. While Loop. Do-while Loop. For Loop. Break and Continue Statements. Nested Loops.

Arrays and Structures :- One and Two Dimensional Arrays. Idea of Structures, Strings and Pointers

Functions : Standard Library Functions and User-defined Functions.

Functions returning Values. Function Prototypes. Function Call by Value and by Reference.

Recursion.

Unit II

Design of algorithm and computer programs based on the numerical techniques read in Paper III “Statistics and Numerical Techniques”.

Programs : (a) Data handling: find standard deviation, mean, variance, moments etc., (b) the least squared fitted curve for a data set, (c) roots of quadratic equations, (d) first order derivative at given x for a data set using Lagrange interpolation, (e) numerical integration on 1-D function using Simpson methods, (f) solving a differential equation using Euler/Runge-Kutta method, (g) Sum, Difference and Product of Matrices, (h) determinant of a matrix - its eigenvalues and eigenvectors.(h)Plotting and evaluation of mathematical functions.

Recommended Books:

1. Schaum's Outline of Programming with C, Byron Gottfried, McGraw-Hill.
2. Computer Programming in C, V. Rajaraman (Prentice Hall of India Pvt. Ltd.) (2006)
3. Computer Applications in Physics: S. Chandra (Narosa) (2008).
4. Computational Physics: R.C.Verma, P.K. Ahluwalia and K.C. Sharma (New Age) (2005).

PHYSICS SEMESTER-VI

Paper VII: Nuclear Radiations and Detection

Unit I

Radiation Sources:

Radioactive decays: Alpha decay, β^- , β^+ and EC decays, Radioactivity units, gamma rays, Internal conversion, X-rays, Auger electron, Bremsstrahlung, Annihilation radiation.

Neutron sources- fission, radioisotope based sources and photoneutron sources, Accelerator based sources.

Radiation Interactions: Interaction of light and heavy Charged Particles, Stopping power, energy and range straggling.

Interaction of Fast Electrons - ionisation and radiative loss, backscattering.

Interaction of Gamma rays, photoelectric absorption, Compton scattering and pair production. Attenuation coefficient.

Interaction of Neutrons, Slowing down power, thermal neutrons.

Sources of Background: Natural radioactivity, Air borne radioactivity, Primary and secondary cosmic rays.

Unit II

General Properties of Radiation Detectors: Modes of detector operation, Current mode, pulse mode, Pulse Height Spectra, Energy Resolution, Detection Efficiency, Dead Time-paralyzable and non-paralyzable models.

Radiation Detectors:

Ionization process in gases, Ion pair formation, fano factor, diffusion, charge transfer and recombination, Charge Migration and Collection.

Gas-filled detectors: Gas Multiplication, avalanche formation, Regions of detector operation.

Proportional Counters, fill gases and choice of geometry.

Geiger-Mueller counter, Fill Gases and Quenching mechanism, Recovery time and dead time, detection of charged particles, gamma and neutrons rays with G.M. counter.

Scintillation Detectors: Organic and Inorganic Scintillators; Characteristics and parameters associated with Gamma ray spectrum

Semiconductor detectors.

Detection of slow and fast neutrons by neutron-induced reactions.

Recommended Books:

1. Radiation detection and measurement: G.F. Knoll (Wiley, New York) (2000).

Paper VIII: Physics Practical

Note : The students are expected to perform any 6 experiments taking at least 3 from each section.

Unit I

1. Measurement of vacuum using the pirani/thermocouple gauge made using electric bulb filament.
2. To study Poisson and Gaussian distributions using a GM Counter.
3. To study absorption of gamma rays in Pb and Fe absorbers.
4. Strength of Alpha source using Solid state nuclear track detector.
5. To study regulated power supply and voltage multiplier circuits (using breadboard).

Unit II

6. To design an Astable multivibrator of given specifications using 555 Timer IC.
7. To design a monostable multivibrator of given specifications using 555 Timer IC and to measure the pulse-width of its output.
8. To study logic gates and clocked JK Master-Slave flip flops using IC's.
9. Study of photon intensity variation through crossed polaroids and diffraction spectrum from diffraction grating using LDR/Photodiode.
10. To measure resistivity of semiconductor at different temperatures using four probe method and the deduce band gap of the semiconductor.

CHEMISTRY**B.Sc. (HONOURS) THIRD YEAR (SEMESTER SYSTEM) EXAMINATION
SEMESTER- V****Outlines of Tests**

| | <i>Lecture Hours</i> | <i>Marks</i> | |
|---------------------------------|----------------------|---------------|----------------------------|
| | | <i>Theory</i> | <i>Internal Assessment</i> |
| Paper V : Inorganic Chemistry-A | 20 | 45 | 05 |
| Paper VI : Physical Chemistry-A | 20 | 45 | 05 |

Paper V: INORGANIC CHEMISTRY-A

| | |
|---------------------|------|
| Total Marks | : 50 |
| Theory | : 45 |
| Internal Assessment | : 05 |
| Total Lectures | : 20 |

OBJECTIVE OF THE COURSE

To teach the fundamental concept of Chemistry and their applications. The syllabus pertaining to B.Sc. (HONOURS) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills

Unit-I**Inorganic Chains:**

(5 lectures)

(a) Chains : Catenation including heterocatenation, silicate minerals, intercalation, One dimensional sulphur-nitrogen conductor.

Unit II**Inorganic Rings and Cages :**

(5 lectures)

(a) Rings : Borazines, phosphazenes and phosphazene polymers.

(b) Cages : Simple cage molecules; Phosphorus–oxygen and phosphorus-sulphur cages; introduction to carboranes and metallocarboranes

Unit III

Organometallics-I :

(5 lectures)

Formation and reactions (i) carbonylate ions (ii) metal-carbonyl hydrides & (iii) metal carbonyl halides.

Unit IV

Organometallics-II :

(5 lectures)

Transition metal-carbon multiple bonds : Chemistry of :
Alkylidene Complexes.
Alkylidyne complexes including bridged molecules.
Metallocumulenes.

Instructions for paper setters and candidates:

- i. *Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.*
- ii. *The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.*
- iii. *All questions carry equal marks.*

Suggested Books:

1. Cotton, F.A., G. Wilkinson, Advanced Inorganic Chemistry; 6th edition Pubs: John Wiley & Sons, 1999.
2. Basolo, F., Pearson, R.G., Inorganic Reactions; Reprint 2nd edition, Pubs: Wiley-Eastern, 1977.
3. Greenwood, N.N., Earnshaw, A., Chemistry of Elements; 1st edition, Pubs: Pergamon Press, 1984.
4. Hoyer, J.E., Keiter, E.A., Keiter, R.L., Inorganic Chemistry-Principles of Structure and Reactivity; 4th edition, Pubs: Pearson Education India, 1993.

Paper VI: PHYSICAL CHEMISTRY-A

| | | |
|---------------------|---|----|
| Total Marks | : | 50 |
| Theory | : | 45 |
| Internal Assessment | : | 05 |
| Total Lectures | : | 20 |

OBJECTIVE OF THE COURSE

To teach the fundamental concept of Chemistry and their applications. The syllabus pertaining to B.Sc. (HONOURS) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills

Unit-I**Transport Properties-I :** (5 Lectures)

Recapitulation of Collision Properties of gases such as collision cross section, collision diameter, collision number, collision frequency and mean free path.

Meaning of transport, Properties of gases, Flux, General equation of transport. Thermal conductivity, kinetic theory of thermal conductivity (derivation of the expression).

Unit-II**Transport Properties-II :** (5 Lectures)

Viscosity of gases, kinetic theory of gas viscosity, (derivation of the expression). Measurement of gas viscosity, Diffusion Coefficient. Kinetic theory of diffusion in gases. (Derivation of the expression).

Diffusion in liquids, theory of diffusion in liquids, diffusion in solutions, laws of diffusion.

Unit-III**Dynamic Electro-Chemistry :** (5 Lectures)

Processes at electrodes. The electric double layer (Gouy-Chapman, Helmholtz and Stern models-qualitative ideas. The potential difference, Rate of charge transfer, Butler Volmer equation, Tafel plot, Overpotential Polarisation, Polarography, Fuel cells, Corrosion, Inhibition of Corrosion.

Unit-IV**Surface Chemistry :**

(5 Lectures)

Interfacial region, types of interfaces, surface tension, thermodynamics of surfaces, plane interface, curved surfaces, Laplace and Kelvin equations including their derivation.

Gibbs Adsorption Equation and its Thermodynamic derivation, Wetting and adhesion in solid-liquid systems, contact angle, Capillary rise and surface tension. Surface Films on liquids.

Instructions for paper setters and candidates:

- i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.*
- ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.*
- iii. All questions carry equal marks.*

Suggested Books:

1. Atkins, P.W., Physical Chemistry; 8th edition, Pubs: Oxford University Press, 2008.
 2. Levine, I.N., Physical Chemistry, 3rd edition, Pubs: Prentice Hall International Inc., 2000.
 3. Pruton, Maron, Principles of Physical Chemistry; 4th edition, Pubs: Oxford & IBH Publishing Co. Pvt. Ltd., 1972.
 4. Chandra, A.K., Introductory Quantum Chemistry; 4th edition, Pubs: Tata McGraw-Hill Publishing Company Ltd.
 5. Moore, W.J., Basic Physical Chemistry; 1st edition, Pubs: Prentice-Hall of India Pvt. Ltd., 1986.
 6. Albert, R.A., Physical Chemistry; 1st edition, Pubs: John-Wiley & Sons, 1992.
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CHEMISTRY
B.Sc. (HONOURS) THIRD YEAR (SEMESTER SYSTEM) EXAMINATION

SEMESTER VI
Outlines of Tests

| | <i>Lecture Hours</i> | <i>Marks</i> | |
|-----------------------------------|----------------------|---------------|----------------------------|
| | | <i>Theory</i> | <i>Internal Assessment</i> |
| PaperVII : Inorganic Chemistry -B | 20 | 45 | 05 |
| PaperVIII : Physical Chemistry -B | 20 | 45 | 05 |

Paper VII: INORGANIC CHEMISTRY-B

| | |
|---------------------|------|
| Total Marks | : 50 |
| Theory | : 45 |
| Internal Assessment | : 05 |
| Total Lectures | : 20 |

OBJECTIVE OF THE COURSE

To teach the fundamental concept of Chemistry and their applications. The syllabus pertaining to B.Sc. (HONOURS) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills

Unit-I

(5lectures)

Complexes of aromatic systems with transition metals. M.O. description of bonding in Ferrocene.

Study of coordinative unsaturation, oxidative addition,

Unit-II

(5 Lectures)

Insertion reactions in Organometallics.

Phenomenon of Fluxionality in Organometallics and its characterization.

Unit-III

Reaction Mechanism :

(5 lectures)

Nature and classification of ligand substitution reactions, application of V.B. & C.F. theories to predict the substitution reactions. Mechanism of ligand replacement reactions, substitution in octahedral complexes acid hydrolysis, base hydrolysis, acid-catalysed, acid hydrolysis and acid hydrolysis for chelates.

Unit-IV

(5 lectures)

Substitution in square planar complexes. The trans-effect & its Synthetic applications, M.O. theories and trans-effects. Electron transfer reactions & their mechanism. Molecular rearrangements, mechanistic pathways of substitution.

Instructions for paper setters and candidates:

- i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.
- ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.
- iii. All questions carry equal marks.

Suggested Books:

1. Cotton, F.A., G. Wilkinson, Advanced Inorganic Chemistry; 6th edition Pubs: John Wiley & Sons, 1999.
2. Basolo, F., Pearson, R.G., Inorganic Reactions; Reprint 2nd edition, Pubs: Wiley-Eastern, 1977.
3. Greenwood, N.N., Earnshaw, A., Chemistry of Elements; 1st edition, Pubs: Pergamon Press, 1984.
4. Hoyer, J.E., Keiter, E.A., Keiter, R.L., Inorganic Chemistry-Principles of Structure and Reactivity; 4th edition, Pubs: Pearson Education India, 1993.

Paper VIII: PHYSICAL CHEMISTRY-B

| | | |
|---------------------|---|----|
| Total Marks | : | 50 |
| Theory | : | 45 |
| Internal Assessment | : | 05 |
| Total Lectures | : | 20 |

OBJECTIVE OF THE COURSE

To teach the fundamental concept of Chemistry and their applications. The syllabus pertaining to B.Sc. (HONOURS) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills

Unit-I**Colloids-I :**

(5 Lectures)

The colloidal state; preparation of colloidal solutions, Methods of purification of colloidal systems, dialysis, electro-dialysis, filtration, Ultra-filtration. Classification of colloidal systems, their typical properties with special reference to optical properties (Tyndall effect).

Unit-II**Colloids-II :**

(5 Lectures)

The Brownian movement. Electrokinetic phenomena, Stabilization of colloidal systems and theories of stability; zeta potential, Coagulation, Flocculation of colloids by electrolytes and its mechanism. Association Colloids, Micellar system, Emulsions and their types, HLB value of emulsifiers, Introduction to microemulsions.

Unit-III**Quantum Chemistry-I :**

(5 Lectures)

ATOMS : Schrodinger equation for multi-electron atoms, Need for approximate Solutions. Basic ideas of the Variation theorem and the Perturbation methods. Self-Consistent Field methods (Hertree and Hertree-Fock)- Elementary treatment only. Indistinguishability of Electrons. Pauli exclusion principle, two electron spin functions; Slater determinants and Pauli principle. New Atomic term symbols. Spin-orbit coupling (Total orbital momentum, multiplicity, total angular momentum) vector model of atom, Hund's rules, atomic spectra and Selection rules.

Unit-IV**Quantum Chemistry-II :**

(5 Lectures)

Molecules :

Schrodinger equation for molecules, Born-Oppenheimer approximation. Valence bond theory and Molecular Orbital theory as two approaches for approximate solution of Schrodinger equation LCAO-MO treatments of H₂ and Valence bond treatment of H₂ (complete solutions not required. Only wave functions to be discussed) Comparison of MO and VB treatments. Brief Introduction to the electronic structure for polyatomic molecules. Metals, Insulators and Semiconductors. Band Theory of Solids (elementary discussion).

Instructions for paper setters and candidates:

- i. Examiner will set total of NINE questions comprising TWO questions from each unit and ONE compulsory question of short answer type covering whole syllabi.
- ii. The students are required to attempt FIVE questions in all, ONE question from each unit and the Compulsory question.
- iii. All questions carry equal marks.

Suggested Books:

1. Atkins, P.W., Physical Chemistry; 8th edition, Pubs: Oxford University Press, 2008.
2. Levine, I.N., Physical Chemistry, 3rd edition, Pubs: Prentice Hall International Inc., 2000.
3. Pruton, Maron, Principles of Physical Chemistry; 4th edition, Pubs: Oxford & IBH Publishing Co. Pvt. Ltd., 1972.
4. Chandra, A.K., Introductory Quantum Chemistry; 4th edition, Pubs: Tata McGraw-Hill Publishing Company Ltd.
5. Moore, W.J., Basic Physical Chemistry; 1st edition, Pubs: Prentice-Hall of India Pvt. Ltd., 1986.
6. Albert, R.A., Physical Chemistry; 1st edition, Pubs: John-Wiley & Sons, 1992.

BOTANY**B.Sc. (Honours) Botany Fifth and Sixth Semester Syllabus****(Examination 2023-24)**

| Fifth Semester | | Time | Theory | Int Assess. | Max Marks |
|--|--|--------|--------|----------------|--------------|
| Theory Paper- A: | Biology of Cryptogams and Seed Plants | 3 hrs. | 36 | 4 | 40 |
| Theory Paper-B: | Genetics, Plant Breeding, Biochemistry, Molecular Biology and Biotechnology | 3 hrs | 36 | 4 | 40 |
| One practical pertaining to entire syllabus included in both theory papers | | 3 hrs | 18 | 2 | 20 |
| Sixth Semester | | | | | |
| Theory Paper- A: | Microbiology and Plant Pathology | 3 hrs. | 36 | 4 | 40 |
| Theory Paper-B: | Systematics of Angiosperms and Environmental Biology | 3 hrs | 36 | 4 | 40 |
| One practical pertaining to entire syllabus included in both theory papers | | 3 hrs. | 18 | 2 | 20 |
| Total | | | | | 200 |

Note:

- The number of teaching hours for theory and practical per semester shall be 60 hrs. and 100 hrs. respectively.
- There will be a two theory papers (A & B) in each semester. Each paper will consist of 9 questions. Question No. 1 will be compulsory and will consist of 8 parts (one mark each) comprising 4 MCQ and the rest 4 parts will be of fill-in the blanks covering the entire syllabus in both the theory papers A & B. The remaining 8 questions in papers A & B shall include two questions from each unit. Candidates shall be required to attempt one question from each Unit. Question No. 1 will carry 8 marks and the rest of 8 questions will be of 7 marks each.

BOTANY

B.Sc. (Honours) Fifth Semester (Examination December, 2023)

PAPER-A: BIOLOGY OF CRYPTOGAMS AND SEED PLANTS

| | |
|----------------------------|-------------|
| Max. Marks | : 40 |
| Theory | : 36 |
| Internal Assessment | : 04 |

Objective : The basic objective of this paper is to make the students understand the diversity in various life forms of plant kingdom. It provides knowledge about evolution of simpler forms to complex ones along with their morphology, anatomy and reproduction.

Teaching Methodology: Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

UNIT-I

BIOLOGY OF CRYPTOGAMS

Algae: Occurrence and distribution; thallus organization and evolutionary tendencies; ultrastructure of algal cell; criteria for classification, structure and life history of *Oedogonium* (Chlorophyceae), *Vaucheria* (Xanthophyceae), *Ectocarpus* (phaeophyceae), *Batrachospermum* (Rhodophyceae) and economic importance of algae.

Fungi: Occurrence and distribution; ultrastructure of fungal cell, cell wall composition, modern concepts in the classification of fungi; nutrition, reproduction, structure and life history of *Rhizopus* (Zygomycetes), *Peziza*, *Saccharomyces* (Ascomycetes), *Alternaria* (Deuteromycetes), *Agaricus* (Basidiomycetes); types of fungal spores and mode of their liberation and economic importance of fungi.

UNIT-II

Bryophytes: Comparative account of morphology, anatomy and reproduction in *Riccia*, *Marchantia*, *Anthoceros*, *Funaria*; evolution of sporophyte and gametophyte; classification, ecological aspects and economic importance.

Pteridophytes: The primary vascular plants; classification, comparative account of morphology, anatomy and reproduction in *Rhynia*, *Lycopodium*, *Selaginella*, *Equisetum*, *Marsilea*, *Pteris*; Telome theory; stelar evolution; heterospory and seed habit.

UNIT-III SEED PLANTS

Phanerogams, the seed bearing plants: General characteristics and types.

The Living Cycads: Distribution; vegetative organography and anatomy; reproductive cycle –sporophytes and sporangia, gametophytes, fertilization, embryogeny and seed development of *Cycas*.

The Coniferales: General organography and anatomy; foliage leaves; strobilli and sporangia; reproductive cycle– sporogenesis, gametophytes, fertilization, embryogeny and seed development of *Pinus*.

The Gnetales: Habit and distribution; vegetative organography and anatomy; reproductive cycle – the strobilli, sporogenesis, male and female gametophytes, pollination, fertilization and embryogeny of *Ephedra*.

UNIT-IV

Alternatives for Reproduction: Vegetative and sexual reproduction.

Flower: Evolution, concept of flower as a modified determinate shoot and functions of flower.

Structure of Anther: Microsporogenesis: formation of pollen grains (male gametophyte); pollen germination; pollen tube growth.

Structure of Pistil: Ovules; megasporogenesis; development of embryo sac (female gametophyte).

Mechanisms and Agencies of Pollination: Pollen-stigma interaction; self-incompatibility; double fertilization, apomixis.

Seed and Fruit: Development of endosperm and embryo in monocotyledons and dicotyledons; storage of reserve materials and desiccation in seeds; dormancy and seed germination; fruit maturation; ripening and dispersal.

Suggested Readings

1. Bhojwani, S.S. and Bhatnagar, S.P. The Embryology of Angiosperms, 4th revised and enlarged edition. Vikas Publishing House, Delhi, India, 2000.
2. Bold, H.C., Alexopoulos, C.J. and Delevoryas, T. Morphology of Plant and Fungi (4th Edition), Harper and Foul Co., New York, 1980.
3. Cronquist, A. The evolution and classification of flowering plants, Thomas Nelson (Printers) Ltd., London and Edinburgh, 1968.
4. Delevoryas, Th. Plant Diversification, Modern Biology Series. Halt, Rinehart and Winston, New York, 1965.
5. Dhand, Neelam. Systematics of Spermatophyta, Trueman Book Company, Jalandhar, India, 2006.
6. Dube, H.C. An Introduction to Fungi, Vikas Publishing House Pvt. Ltd., Delhi, India, 1990.
7. Foster, A.S. and Gifford, A.E.M., Jr. The Comparative Morphology of Vascular Plants, Vakils, Peffer and Simons Pvt. Ltd, 1967.
8. Gifford, E.M. and Foster, A.S. Morphology and Evolution of Vascular Plants, W.H. Freeman & Co., New York, 1989.

9. Gilbert, M.S. Cryptogamic Botany, Vol. I & II (2nd Edition), Tata McGraw Hill Publishing Co. Ltd., New Delhi, India, 1985.
10. Johri, B.M. Embryology of Angiosperms, Springer-Verlag, Berlin, 1984.
11. Kumar, H.D. Introductory Phycology, Affiliated East-West Press Ltd., New York, 1988.
12. Puri, P. Bryophytes, Atmaram & Sons, Delhi, India, 1985.
13. Raghavan, V. Molecular Embryology of Flowering Plants, Cambridge University Press, New York, 1997.
14. Rangaswamy, G. and Mahadevan, A. Diseases of Crop Plants in India, Prentice Hall India Pvt. Ltd. New Delhi, India, 1999.
15. Singh, V, Pande, P.C. and Jain, D.K. Diversity of Microbes and Cryptogams, Rastogi Publications, Meerut, India, 2008.
16. Sporne, K.R. The Morphology of Angiosperms. B.I. Publication, Bombay, India, 1977.
17. Srivastava, H.N. Diversity of Microbes & Cryptogams, Vol. I, Pradeep Publications, Jalandhar, India, 2014.
18. Srivastava, H.N. Diversity of Seed Plants and Their Systematics, Vol.III, Pradeep Publications, Jalandhar, India, 2014.
19. Wilson, N.S. and Rothwell, G.W. Palaeobotany and the Evolution of Plants (2nd Edition), Cambridge University Press, UK, 1993.

Suggested Laboratory Exercises (Biology of Cryptogams)

1. Comparative study of algal genera with reference to the classes mentioned in theory.
2. Comparative study of fungal genera with reference to the classes mentioned in theory.
3. Comparative study of morphology, anatomy and reproductive structures in *Riccia*, *Marchantia*, *Anthoceros* and *Funaria*.
4. Comparative study of different members of Pteridophytes mentioned in the theory syllabus.
5. Comparative anatomical structure of stem/wood of Cycadales, Coniferales, Ephedrales, Gnetales and angiosperms, from sections and macerations.
6. Comparative structure of the male and female cones of Cycads (*Cycas*), Conifers (*Pinus*) and Ephedrales (*Ephedra*).
7. Comparative structure of leaf, leaf appendages, venation and stomata of gymnosperms and angiosperms.
8. Diversity in pollen grain structure among Cycads, Conifers, Ephedrales and angiosperms with respect to size, exine sculpturing, germ spore number, number of constituent cells and any other features.
9. Microsporogenesis and male gametophyte development in angiosperms through microtome sectioning and acetocarmine squash technique.
10. Pollen grain germination by hanging-drop and sitting-drop techniques in *Impatiens*, *Catharanthus roseus* (= *Vinca rosea*) or any other suitable material.
11. Diversity in the structure of stigma, style, stigmatic papillae and transmitting tissue of style.

BOTANY**SEMESTER – V****PAPER-B: GENETICS AND PLANT BREEDING, BIOCHEMISTRY, MOLECULAR BIOLOGY AND BIOTECHNOLOGY**

Objective: The course work of this paper deals with basic concepts of genetics, plant breeding, molecular biology and biotechnology. It deals with various types of plant reproduction and methods of plant improvement. It provides knowledge of molecular and cellular basis that would enable the students to understand the hereditary and evolutionary trends in plants kingdom.

Teaching Methodology: Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

**UNIT-I
GENETICS**

Cell division - Mitosis and Meiosis.

Mendel's Experiments and Principles of Inheritance: Backcross and test cross; gene interactions and modified dihybrid ratios – complementary, supplementary, duplicate and epistatic factors.

Quantitative Genetics: Quantitative traits and quantitative genetics; the multiple factor hypothesis; descriptive statistics.

Linkage and Recombination: Coupling and repulsion phases; two and three point testcrosses with their significance in chromosome mapping; interference and co-efficient of coincidence.

Maternal Influence on Inheritance: Shell coiling in snails and Kappa particles in Paramecium; cytoplasmic inheritance in yeast (mitochondria) and *Mirabilis jalapa* (plastids).

Changes in Chromosome Structure: Origin, types and effects of duplications, deletions, inversions and translocations; meiosis in structural heterozygotes.

UNIT –II

PLANT BREEDING

Methods of Plant Improvement: Pure line and mass selection; hybridization in self and cross pollinated crops; introduction and acclimatization; hybrid vigour.

Alterations in the Genetic makeup – changes at Genetic Level: Spontaneous and induced mutations; mutagens – types and mode of action; transitions, Transversions and frame-shift mutations; detection of mutations.

Alterations in Genetic makeup – changes in Chromosome Number : Origin, types and effects of auto and allopolyploidy; origin and meiosis in nullisomics, monosomics and trisomics.

Mutations and polyploidy as methods of plant improvement.

UNIT-III

BIOCHEMISTRY AND MOLECULAR BIOLOGY

Nucleic Acids: Composition of nucleic acids and synthesis of nucleotides; DNA structure; A,B and Z forms of DNA; denaturation and renaturation of DNA; chromatin structure; DNA replication and recombination; DNA polymerases; different forms of RNA and their role.

Amino Acid and Protein Metabolism: Structure, characteristics and classification of amino acids; protein and non-protein amino acids; amino acid biosynthesis; GS/GOGAT cycle; transamination; peptide bond and polypeptide chain; primary, secondary, tertiary and quaternary structure of proteins; protein biosynthesis and its regulation; post-translational modification of proteins; protein targeting; protein degradation.

Carbohydrate Metabolism: Classification; structure of some representatives examples of monosaccharides, disaccharides, polysaccharides; stereoisomers, enantiomers and epimers; biosynthesis and degradation of sucrose and starch.

Lipid Metabolism: Saturated and unsaturated fatty acids; fatty acid biosynthesis; oxidation of fatty acids; storage and mobilization of fatty acids and lipids.

UNIT-IV

BIOTECHNOLOGY

Gene Structure, Expression and Regulation: Gene organization in prokaryotes and eukaryotes; operon concept; gene regulation in prokaryotes and eukaryotes; inducible, repressible, positive and negative gene regulation; interrupted genes in eukaryotes; RNA splicing; mRNA stability.

Recombinant DNA Technology: Restriction endonucleases: prokaryotic and eukaryotic cloning vectors; genomic and cDNA libraries; southern and northern analysis; various techniques of gene mapping and DNA fingerprinting (RFLP, RAPD, AFLP); chromosome walking; polymerase chain reaction; DNA sequencing.

Plant Biotechnology: Cellular differentiation and totipotency; organogenesis and embryogenesis; protoplast isolation and culture; somatic hybridization; clonal propagation; genetic engineering of plants; vectors for gene delivery; selectable markers and reporter genes; methods of gene delivery; Agrobacterium – the natural genetic engineer; salient achievements in crop biotechnology (with suitable examples) and prospects.

Suggested Readings:

1. Alberts, B., Bray, D., Lewis, J., Raff, M., Roberts, K. and Watson, J.D. Molecular Biology of Cell, Garland Publishing Co., Inc., New York, USA, 1999.
2. Atherly, A.G., Girton, J.R. and McDonald. The Science of Genetics, Saunders College Publishing Co., Fort Worth, USA, 1999.
3. Bhatia, K.N. and Dhand, Neelam. Cell Biology and Genetics, Trueman Book Company, Jalandhar, India, 2013
4. Buchanan, B.B., Gruissem, W. and Jones, R.L. Biochemistry and Molecular Biology of Plants, American Society of Plant Physiologists, Maryland, USA, 2000.
5. Dennis, D.T., Turpin, D.H., Lefebvre, D.D. and Layzell, D.B. (eds). Plant Metabolism (2nd Edition), Longman, Essex, England, 1997.
6. Gardener, J., Simmons, H.J. and Snustad, D.P. Principles of Genetics (8th Edition), John Wiley & Sons, New York, 1991.
7. Gupta, P.K. Cytogenetics, Rastogi Publications. Shivaji Road, Meerut, India, 1995.
8. Gupta, P.K. Cytology, Genetics and Molecular Biology, Rastogi Publications. Shivaji Road, Meerut, India, 2009.
9. Gupta, P.K. Genetics, Rastogi Publications. Shivaji Road, Meerut, India, 1994.
10. Hartl, D.L. and Jones, E.W. Genetics: Principles and Analysis (4th Edition), Jones & Bartlett Publishers. Massachusetts, USA, 1998.
11. Lea, P.J. and Leegood, R.C. Plant Biochemistry and Molecular Biology (2nd Edition), John Wiley and Sons, Chichester, England, 1999.
12. Lodish, H., Berk, A., Zipursky, S.L., Matsudaira, P., Baltimore, D. and Darnell, J. Molecular Cell Biology (4th Edition), W.H. Freeman and Co., New York, U.S.A, 2000.
13. Old, R.W. and Primrose, S.B. Principles of Gene Manipulation, Blackwell Scientific Publications, Oxford, UK, 1989.
14. Poehlmann, J.M. and Sleeper, D.R. Breeding Field Crops, Panima Publishing House, New Delhi, India, 1995.
15. Russel, P.J. Genetics (5th Edition), The Benjamin/Cummings Publishing Co., Inc., USA, 1998.
16. Sharma, J.R. Principles and Practice of Plant Breeding, Tata McGraw Hill Publishing Co. Ltd., New Delhi, India, 1994.
17. Simmonds, N.W. Principles of Crop Improvement, Longman, London and New York, 1979.
18. Snustad, D.P. and Simmons, M.J. Principles of Genetics (2nd Edition), John Wiley & Sons, Inc., USA, 2000.
19. Srivastava, H.N. Cell Biology and Genetics, Vol.II, Pradeep Publications, Jalandhar, India, 2006.
20. Srivastava, H.N. Plant Physiology, Biochemistry and Biotechnology, Vol.V, Pradeep Publications, Jalandhar, India, 2013.
21. Verma, P.S. and Agarwal, V.K. Cell Biology, Genetics, Molecular Biology, Evolution and Ecology. S. Chand & Company (Reprint, 2010).

Suggested Laboratory Exercises:

1. Determination of chromosome count from dividing pollen mother cells and root tips.
2. Preparation of karyotypes from dividing root tip cells and pollen grains.
3. Determination of intraspecific variation in chromosome number from locally available taxa.
4. Correlation of floral structure with pollination system (e.g. *Salvia*, *Sesamum*, pea, *Lathyrus*, wheat, rice, maize).
5. Field exploration for detection of male sterile plants and estimation of their pollen fertility in locally grown crop plants e.g. *Sorghum*, tomato and *Linum*.
6. Estimation of pollen ovule ratio and its bearing on pollination system.
7. Emasculation and bagging of flowers of Brassicaceae, Poaceae, Papilionaceae, Malvaceae and Linaceae, pollinating them manually and estimating fruit and seed set.
8. Chemical tests to demonstrate the presence of starch, sugar, fat and protein in plant material.
9. To identify the amino acids in a mixture by resolving through paper chromatography or TLC.
10. To prepare the standard curve for protein and determine the protein content in unknown samples by Biuret method.
11. Colorimetric estimation of RNA using orcinol.
12. Colorimetric estimation of DNA using diphenyl amine.
13. Isolation of plant genomic DNA and its spooling.
14. Isolation of total RNA from plant tissue and its colorimetric estimation.
15. Preparation of tissue culture media, sterilization and inoculation of plant material.
16. Demonstration of techniques of in vitro culture of various explants.
17. Isolation of plant protoplasts (e.g. Tobacco, *Petunia*) using enzymes available commercially and estimation of their yield.

Note: In the practical classes, emphasis should be given on basic principles of spectro-photometry, chromatography, electrophoresis and rDNA technology and related fundamentals.

Guidelines for Botany Practical Examination:

| | | |
|------------------------|----------|---------------|
| Max Marks | : | 20 |
| Practical | : | 18 |
| Int. Assessment | : | 2 |
| Time | : | 3 hrs. |

- | | |
|--|---|
| Q.1 Identify classify & write illustrated morphological note on specimens A & B (unit I – III of paper A) | 4 |
| Q.2 Demonstrate and perform the experiment C (Biochemistry/Biotechnology) and show it to the examiner. | 5 |
| Q.3. Identify slides D & E giving at least two reasons for each. | 4 |
| Q.4 Practical note book | 2 |
| Q.5 Viva-Voce | 3 |

BOTANY

B.Sc. (Honours) Sixth Semester (Examination May, 2024)

PAPER-A: MICROBIOLOGY AND PLANT PATHOLOGY

Objectives: The basic objective of this paper is to make students familiar with the systematic position of microorganisms, their ultrastructure, classification and industrial application. It also deals with the important aspects of plant diseases, their pathogens and disease management.

Teaching Methodology: Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

UNIT-I (MICROBIOLOGY)

General account of Microorganisms and their characteristics features.

Ultrastructure of Microorganisms: Prokaryotic microorganisms; fine structure of prokaryotic cell; eukaryotic microorganisms; viruses – properties and classification; characteristic features of host-virus interaction; bacteriophage T4; tobacco mosaic virus; general account of mycoplasma and actinomycetes.

Industrial Application of Microorganisms: Organic acids, alcohol, food processing, milk products, antibiotics and biopesticides.

UNIT-II

Genetic Recombination in Prokaryotes: Conjugation, transformation and transduction.

Role of Microorganisms in biogeochemical cycling of nitrogen and carbon; Biological N₂ fixation.

UNIT-III (PLANT PATHOLOGY)

Major Diseases of Plants, their symptoms and Control : Blast and brown spot of rice, rust and smuts of wheat, downy mildew and green ear disease of bajra, white rust of crucifers, late blight of potato, wilt of pigeon pea, damping off seedlings of tomato/mustard/chillies, Tikka or leaf spot of groundnut, citrus die back, powdery mildews of cucurbits and grapes, red rot of sugarcane.

Plant Disease Management: Chemical, biological; IPM systems; development of transgenics; biopesticides; plant disease clinics.

UNIT-IV

Pathogen Attack and Defense Mechanisms: Physical, physiological, biochemical and molecular aspects.

Plant Disease Epidemiology: Transmission and spread of plant pathogens; disease cycles, epidemics; modeling and disease forecasting.

Suggested Readings:

1. Agrios, G.N. Plant Pathology, Academic Press, London, 1997.
2. Albajes, R. Gullino, M.L., Van Lenteren, J.C. and Elad, Y. Integrated Pest and Disease Management in Green house crops, Kluwer Academic Publishers, 2000.
3. Bridge, P. et al. Molecular Variability of Fungal Pathogens, CAB International, UK, 1998.
4. Bridge, P. et al. Application of PCR in Mycology, CAB International, UK, 1999.
5. Bridge, P., Moore, D.R. and Scott, P.R. Informational Technology, Plant Pathology and Biodiversity, CAB International, UK, 1998.
6. Clifton, A. Introduction to the Bacteria, McGraw Hill Co., New York, 1958.
7. Mandahar, C.L. Introduction to Plant Viruses, Chand & Co. Ltd., Delhi, India, 1998.
8. Persley, G.J. Biotechnologies and Integrated Pest Management, CAB International, UK, 1996.
9. Skerritt, J.H. and Apples, R. New Diagnostics in Crop Sciences, CAB International, UK, 1995.

Suggested Laboratory Exercises

1. Calibration of microscope: determination of dimensions of microorganisms (suggested model organisms: yeast, lactobacilli, cyanobacteria).
2. Cultivation media for autotrophic and heterotrophic microorganisms (cleaning of glasswares, mineral media, complex media, solid media, sterilization).
3. Isolation of microorganisms: streaking on agar plates/pour plate method, isolation of clones, preservation.
4. Preparation of Winogradsky column using pond bottom mud, observations on temporal sequence of appearance of microbes. (visual appearance, microscopic observations)
5. Observation on virus infected plants (symptoms).
6. Fermentation by yeast (inverted tube method, use of different substrates, e.g. glucose, fructose, cane sugar, starch)
7. Study of histopathology of various plant diseases included in theory.
8. Isolation and culture of plant pathogens (e.g. *Colletotrichum*, *Fusarium*, *Alternaria*) and establishment of Koch's postulates and their pathogenicity.
9. Study on antagonism between isolated antagonists and plant pathogens and test of biological control.
10. Demonstration of the assay of prohibitins (phytoalexins).
11. Demonstration of biopesticides (essential oils, neem, turmeric and garlic) against some pathogens.

BOTANY

SEMESTER – VI

PAPER-B: SYSTEMATICS OF ANGIOSPERMS AND ENVIRONMENTAL BIOLOGY

Objective: This paper deals with taxonomy and species concept of plants. It provides a knowledge about identification, nomenclature and classification which forms the basis of future research work. It also deals with inter-relations of plants and environment as well as various environmental problems, role of national and international organization in environmental management.

Teaching Methodology: Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

UNIT-I

ANGIOSPERM SYSTEMATICS

Introduction : Aims and components of systematics, introduction to identification, nomenclature, phylogeny and classification.

Systematics in Practice: Importance of herbarium specimens and their preparation; role of herbaria and botanical gardens; documentation (floras, monographs, manuals, journals, abstracts, indices and dictionaries); keys for identification of plants.

Taxonomic Hierarchy: Taxonomic category, taxonomic groups; concepts of species, genus and family.

Botanical Nomenclature: Principles and rules; ranks and names; type method; principle of priority and its limitations; names of hybrids and cultivars; concept of biocode.

UNIT-II

General characters of Angiosperms.

Systems of Classification: Bentham and Hooker's system. Engler and Prantl's system and Takhtajan's system.

Modern Taxonomy: Supporting evidences/inputs for taxonomy; taxonomy in relation to anatomy, embryology, palynology, ecology, cytology (cytotaxonomy), secondary metabolites in plants (chemotaxonomy).

A brief account of following families: Ranunculaceae, Brassicaceae, Rutaceae, Fabaceae, Cucurbitaceae, Apiaceae, Asteraceae, Asclepiadaceae, Solanaceae, Lamiaceae, Chenopodiaceae, Euphorbiaceae, Liliaceae and Poaceae.

UNIT-III

ENVIRONMENTAL BIOLOGY

Introduction: Inter-relationship between the living world and the environment; the components and dynamism; homeostasis; relevance to man.

Earth as a System: The biosphere, the hydrosphere, the atmosphere and the lithosphere; components within biosphere (Biomes); parameters delimiting individual biomes.

The Environment: Soil, water and atmosphere – general account and adaptations.

Organismal Ecology/Biotic components: Individuals, species, population communities and their characteristics.

Ecosystems: Concepts of ecosystem; homeostasis; structure of ecosystem; functions of ecosystem; transfer of energy and minerals via grazing and detritus chains and role of micro-organisms; cycles (hydrologic, gaseous); role of humans in maintaining biogeochemical cycles.

Diversity of Ecosystem: Aquatic (fresh water); terrestrial (forest/grassland); man-made ecosystems.

UNIT-IV

Human Ecology and Ecological Management: The human population; renewable and non-renewable natural resources and their management; conservation of biodiversity; endangered species; conventional and non-conventional energy sources.

Impact of human activities: Pollution of air, water and soil; a brief account of environmental toxicology; incidence of noise; thermal and radioactive pollution; prevention and control of pollution; global warming, desertification and ozone depletion.

Suggested Readings

1. Barbour, M.G., Burk, J.H. and Pitts, W.D. Terrestrial Plant Ecology, Benjamin/Cummings, Publications Co., California, 1987.
2. Bhojwani, S.S. Plant Tissue Culture: Applications and Limitations, Elsevier Science Publishers, New York, USA, 1990.
3. Collins, H.A., and Edwards, S. Plant Cell Culture, Bios Scientific Publishers, Oxford, UK, 1998.
4. Dhand, Neelam. Systematics of Spermatophyta, Trueman Book Company, Jalandhar, India, 2006.
5. Hill, M.K. Understanding Environmental Pollution, Cambridge University Press, 1997.
6. Kormondy, E.J. Concepts of Ecology, Prentice-Hall of India Pvt. Ltd., New Delhi, India, 1996.
7. Mackenzie, A. et al. Instant Notes in Ecology, Viva Books Pvt. Ltd., New Delhi, India, 1999.
8. Misra, R. Ecology Work Book, Oxford & IBH, New Delhi, India, 1968.
9. Moore, P.W. and Chapman, S.B. Methods in Plant Ecology, Blackwell Scientific Publications, 1986.
10. Odum, E.P. Basic Ecology. Saunders, Philadelphia, 1983.
11. Raghavan, V. Embryogenesis in Angiosperms: A Developmental and Experimental Study, Cambridge University Press, New York, USA, 1986.
12. Smith R.K. Ecology and Field Biology. Harper Collins, New York, 1996.

13. Srivastava, H.N. Diversity of Seed Plants and Their Systematics, Vol. III, Pradeep Publications, Jalandhar, India, 2014.
14. Vasil, I.K. and Thorpe, T.A. Plant Cell and Tissue Culture, Kluwer Academic Publishers, The Netherlands, 1994.

Suggested laboratory Exercises

Description of the following flowers belonging to the various families included in theory syllabus:

1. Ranunculaceae : *Ranunculus, Delphinium*
2. Brassicaceae : *Brassica, Iberis*
3. Rutaceae: *Citrus, Murraya*
4. Fabaceae: *Lathyrus, Cassia, Mimosa* and *Acacia*
5. Cucurbitaceae: *Luffa*
6. Apiaceae; *Coriandrum*
7. Asteraceae: *Helianthus, Ageratum, Sonchus*.
8. Asclepiadaceae: *Calotropis*.
9. Solanaceae: *Solanum, Petunia*
10. Lamiaceae: *Ocimum, Salvia*
11. Chenopodiaceae: *Chenopodium*
12. Euphorbiaceae: *Euphorbia, Phyllanthus*
13. Liliaceae: *Asphodelus, Asparagus*
14. Poaceae: *Avena, Triticum*.

Suggested laboratory Exercises (Environmental Biology)

1. Mechanical analysis of soils by sieve method
2. Determination of water holding capacity and field capacity of soil.
3. Determination of permeability (capillarity and percolation) of different types of soils.
4. Determination of species area curve by minimal quadrat size.
5. Analysis of the herbaceous vegetation for frequency, density and abundance.
6. Effect of tree canopy on the distribution of herbaceous vegetation.
7. Field visit: students should be taken for field visits to places of ecological/environmental interest. They should submit detailed report of the visit in the form of project report in the final practical examination for evaluation. The report shall carry marks.

Note to teachers:

The students are to be familiarized with the families listed above in the practical classes with representative's species or any other that may be available locally. However, questions pertaining to these may be asked in the theory examinations.

Guidelines for Botany Practical Examination:

| | | |
|------------------------|----------|---------------|
| Max Marks | : | 20 |
| Practical | : | 18 |
| Int. Assessment | : | 2 |
| Time | : | 3 hrs. |

| | | |
|------|---|---|
| Q.1 | Describe specimen A in technical terms & proper sequence. Draw F.D and V.S of the flower. Cut T.S of ovary and V.S of the flower and show it to the examiner. Write its F.F. as well. | 6 |
| Q.2 | Identify specimen B and write Histopathological note on it. | 3 |
| Q.3. | Identify slides C by giving at least two reasons. | 2 |
| Q.4 | Field Diary | 2 |
| Q.5 | Practical note book | 2 |
| Q.6 | Viva-Voce | 3 |

ZOOLOGY
SEMESTER – V

PAPER I: REPRODUCTIVE BIOLOGY AND HUMAN WELFARE-I

PAPER II: AQUATIC BIOLOGY-I

PAPER I: REPRODUCTIVE BIOLOGY AND HUMAN WELFARE-I

| | |
|---------------------|------------|
| Max. Marks | : 40 |
| Theory Exam. | : 36 marks |
| Internal Assessment | : 4 marks |
| Time | : 3 hrs. |

Note: Nine questions are to be set. Question No.1 is compulsory consisting of short answer type questions covering the whole syllabus. It will have 8 parts of 1mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.

UNIT -I

Structure, physiology and functions of male reproductive organs: testis, epididymis, vas deferens.

UNIT -II

Accessory glands: Seminal vesicle and prostate gland.
Semen composition, sperm maturation and capacitation.

UNIT -III

Structure, physiology and functions of female reproductive organs: ovary, oviduct, uterus cervix, vagina and breast.

UNIT -IV

Oestrous and menstrual cycles (ovarian and uterine cycles).
Fertilization, implantation, gestation, parturition and lactation.

Books Recommended:

1. Milt, J. & Everitt, B.J., Essential of Reproduction, Blackwell Scientific Publications, 1985.
2. Genong, M., Reproduction, Saunders Intern. Publications, 1985.
3. Greep, R.O. & Astwood, E.B., (Eds), Handbook of Physiology, Kluwer Academic/ Plenum Publishers, New York, 2002.
4. Balin, H., & Glasser, S. (Eds.), Reproductive Biology, Excerpta Media, 1972.
5. Guyton, A.S., Text Book of Medical Physiology, 7th edition, Iquakushoinl/Saunders International Publications, 1994.
6. Knobil and Neill's Physiology of Reproduction, 4th edition Academic Press 1994.

PAPER II: AQUATIC BIOLOGY-I

| | |
|---------------------|------------|
| Max. Marks | : 40 |
| Theory Exam. | : 36 marks |
| Internal Assessment | : 4 marks |
| Time | : 3 hrs. |

Note: Nine questions are to be set. Question No.1 is compulsory consisting of short answer type questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.

UNIT -I

Physico-chemical characteristics of marine environment
Adaptations in deep sea fishes

UNIT -II

Zonation in marine habitat: characteristic flora and fauna of different zones
Continental shelf, coral reefs and sea weeds with their economic importance

UNIT -III

Freshwater zonation in a lake and stream: Supralittoral, littoral, sublittoral, profundal & limnetic zones of a lake.
Longitudinal zonation in a stream, stages in the development of a stream, conditions of hillstreams and adaptations in hillstream fishes.

UNIT -IV

Classification of freshwater habitats: Streams ponds, lakes, marshes and swamps.
Biogeochemical cycles – Nitrogen, Phosphorus, Sulphur, Water and Carbon

Books recommended

1. Ruttner, F., Fundamentals of Limnology, University of Toronto Press, Toronto, 1975.
2. Reid, G.K. & Wood, R.D., Ecology of Inland Waters and Estuaries, Van Nostrand Reinhold Publishing Co., New York, 1975.
3. Welch, P.S., Limnology, McGraw Hill Book Co., New York, 1952.
4. Jhingran, V.G., Fish & Fisheries of India, Hindustan Publications Corporation, Delhi, 1991.

PRACTICALS**Practical based on both theory papers I & II:**

- I. Demonstration of male and female reproductive systems and their associated glands in rat/rabbit through charts.
- II. Histology of testis, epididymis, vas deferens, prostate, seminal vesicle, ovary, uterus and vagina through permanent slides.
- III. Study of permanent slides of the vaginal smear of human menstrual cycle and rat/mice oestrous cycle.
- IV. Determination of the different phases of the oestrous cycle in living rat through permanent slides.

- V. Study of mammalian sperm through slides/charts.
- VI. Histological examination of placenta through slides/charts.
- VII. Freshwater zonation in lake/stream and study of different communities (plankton, nekton, neuston, benthos and lotic communities).

Scheme for Conduct of Practical Examination

| | |
|---------------------|------------|
| Max. Marks | : 20 |
| Practical Exam. | : 18 marks |
| Internal Assessment | : 2 marks |

- Note:
1. Practical will be of 4 hrs. duration.
 2. The students will be required to submit in writing the principles, method employed and precautions to be observed wherever necessary within 1 hr. of the start of examination.

- I Draw a labeled sketch of given system and show to examiner/Spot parts of system on the charts/models. (3)
- II Identification of phases of oestrous cycle. (1)
- III Record biota in a given sample from a lake. Make labeled sketches and demonstrate them to the examiner. (2)
- IV Examine the water sample for various communities from different zones of a lake and draw labelled sketches. (2)
- V Identify the specimens/slides/charts A-D. Give reasons of the identification. (4)
- VI. Note book and charts. (3)
- VII. Viva-Voce. (3)

ZOOLOGY
SEMESTER – VI

PAPER I: REPRODUCTIVE BIOLOGY AND HUMAN WELFARE-II

PAPER II: AQUATIC BIOLOGY-II

PAPER I: REPRODUCTIVE BIOLOGY AND HUMAN WELFARE-II

| | |
|---------------------|------------|
| Max. Marks | : 40 |
| Theory Exam. | : 36 marks |
| Internal Assessment | : 4 marks |
| Time | : 3 hrs. |

Note: Nine questions are to be set. Question No.1 is compulsory consisting of short answer type questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.

UNIT –I

Hypothalamo-hypophyseal-gonadal axis: Neuro-hormonal regulation of production of hypothalamic factors, gonadotropic and gonadal hormones.

UNIT –II

Neuro-hormonal regulation of reproductive behaviour: male, female and parenting.

UNIT –III

Fertility Regulation:

Contraception and modern contraceptive technology-natural, mechanical, chemical immunological and surgical methods, Intrauterine insemination (IUI), Surrogacy, Artificial wombs and *in vitro* Fertilization (Test tube baby).

UNIT -IV

Application of fertility regulation in live stock:

- i. Artificial insemination in farm animals.
- ii. Milk yield.
- iii. Egg production in poultry.

Books Recommended:

1. Milt, J. & Everitt, B.J., Essential of Reproduction, *Blackwell* Scientific Publications, 1985.
2. Genong, M., Reproduction, Saunders Intern. Publications, 1985.
3. Turner, C.P. & Bagnara, J.T., General Endocrinology, Saunders Intern. Publications, 1984.
4. Balin, H., & Glasser, S. (Eds.), Reproductive Biology, Excerpta Media, 1972.
5. Guyton, A.S., Text Book of Medical Physiology, 7th edition, Iquakushoinl/Saunders International Publications, 1994.
6. Knobil and Neill's Physiology of Reproduction, 4th edition Academic Press 1994.

PAPER II: AQUATIC BIOLOGY-II

| | |
|---------------------|------------|
| Max. Marks | : 40 |
| Theory Exam. | : 36 marks |
| Internal Assessment | : 4 marks |
| Time | : 3 hrs. |

Note: Nine questions are to be set. Question No.1 is compulsory consisting of short answer type questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.

UNIT -I

Ecosystem: Structural and functional components of an ecosystem, Different models of energy flow in an ecosystem, food chains and food webs, Ecological pyramids and Ecological efficiencies

UNIT -II

Physico-chemical characteristics of freshwater environment: Temperature, light, current of water, density, pH, dissolved oxygen, carbon dioxide and nutrients. Thermal stratification

UNIT -III

Productivity: Concepts of productivity, primary, secondary and tertiary productivity, yield and carrying capacity. Methods for the determination of productivity
Concepts of Ecotone, its characteristics & advantages.

UNIT -IV

Ecological succession: Succession, kinds of succession, changes in animal life during hydrarch, Theories pertaining to climax community, Concept of eutrophication, Oligotrophic, mesotrophic and eutrophic lakes

Books recommended

1. Ruttner, F., Fundamentals of Limnology, University of Toronto Press, Toronto, 1975.
2. Reid, G.K. & Wood, R.D., Ecology of Inland Waters and Estuaries, Van Nostrand Reinhold Publishing Co., New York, 1975.
3. Welch, P.S., Limnology, McGraw Hill Book Co., New York, 1952.
4. Odum, E.P., Fundamentals of Ecology, Saunders Co., Philadelphia, 2004.

PRACTICALS**Practical based on both theory papers I & II:**

- I. Study of permanent slides of mammalian ovary and testis.
- II. Study of different techniques of contraception through charts/models/video clippings.
- III. Study of artificial insemination, egg production through charts/models/video clippings.
- IV. Study of components of lake ecosystem and grazing type of food chain.
- V. Physico-chemical characteristics of freshwater environment. Temperature, Light, turbidity, current of water, density, pH, dissolved O₂, CO₂ and nutrients.
- VI. Ecological succession in an aquatic habitat in the laboratory.

Scheme for Conduct of Practical Examination

| | |
|---------------------|------------|
| Max. Marks | : 20 |
| Practical Exam. | : 18 marks |
| Internal Assessment | : 2 marks |

- Note: 1. Practical will be of 4 hrs. duration.
2. The students will be required to submit in writing the principles, methods employed and precautions to be observed wherever necessary within 1 hr. of the start of examination.

- | | | |
|-----|---|-----|
| I | Draw a labeled sketch of techniques of contraception/artificial insemination. | (3) |
| II | Determine the physico-chemical factors in a given sample of fresh water. Write the procedure followed. | (4) |
| III | Draw labeled diagram of food chain(in aquatic/terrestrial environment) | (2) |
| IV | Identify the cells/part in slides A & B. Give reasons for identification and name the hormone secreted by it. | (3) |
| V. | Note book and charts | (3) |
| VI. | Viva-Voce. | (3) |

B.A. (Honours) MUSIC (INDIAN CLASSICAL DANCE)**SEMESTER-V****General Instructions:-**

- 1) In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
- 2) There would not be more than eight students in one section in practical examination.
- 3) There would be upto eight students in one section in practical class.
- 4) In all, nine questions will be set from the whole syllabus. The question paper will be divided into five units. First four units will contain two questions each, out of which the candidates are to attempt one question from each unit, the ninth question of fifth unit is compulsory and is consists of 13 short answer questions (covering entire syllabus i.e theory & practical) out of which students have to attempt 09 questions of 01 marks each.
- 5) No electronic Instruments will be allowed for lehra in practical examination.
- 6) While sending the syllabus to paper setter in theory, the syllabus prescribed for the practical paper should also be sent.

Paper-A: THEORY (Duration 45 minutes, 02 theory periods per week) : 45 Marks

Paper-B: PRACTICAL (Duration 45 minutes, 06 practical periods per week) : 45 Marks

Paper-A Theory

Maximum Marks: 50 marks
 Theory : 45 marks
 Int. Assessment : 05marks
 Time : 3 Hours

Unit-I

1. Definitions:- Pharmaishi Chakardar paran, Chakardar paran, Hela, Kataksh, Anghar
2. Eyebrow movements
3. Comparison of Gat Nikas and Gat Bhav

Unit-II

1. Knowledge of dance forms:- Kuchipudi, Kathak
2. Costumes used in kathak in mughal and present period
3. Dance and festivals

Unit-III

1. Knowledge of modern dance
2. Contribution of Pt. Birju Maharaj in the field of kathak dance
3. Description of tribal dance i.e. Sammi and Santhal

Unit-IV

1. Notation of Thaat, Amad, Tora, Chakardar- Paran, Chatusjati Paran, Kavit in Teentaal2.
2. Notation of Thaat, Amad, Uthan, Tora, Ganesh Paran in swari Taal (15 Matra)
3. Notation of Tora, Tukra, Paran in sultaal (10 Matra)
4. Nagma of above mentioned Taals
5. Ekgun, Dugun, Tigun, Chaugun Layakries of above Taals prescribed in course

Unit-IV

1. Notation of Thaata, Amad, Tora, Chakardar- Paran, Chatusjati Paran, Kavit in Teentaal2.
2. Notation of Thaata, Amad, Uthan, Tora, Ganesh Paran in swari Taal (15 Matra)
3. Notation of Tora, Tukra, Paran in sultaal (10 Matra)
4. Nagma of above mentioned Taals
5. Ekgun, Dugun, Tigun, Chaugun Layakries of above Taals prescribed in course

Unit-V

The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

Paper- B Practical

| | |
|-------------------|------------|
| Maximum Marks: | 50 marks |
| Theory : | 45 marks |
| Int. Assessment : | 05marks |
| Time : | 20 minutes |

1. Teentaal (16 Matra)
 - Thaat-1
 - Amad-1
 - Tora-2
 - Chakardar Paran-1
 - Chatusjati Paran-1
 - Kavit-1
2. Swari Taal (15 Mara)
 - Thaat-1
 - Amad-1
 - Uthan-1
 - Tora-2
 - Ganesh Paran-1
3. Sool Taal (10 Matra)
 - Tora-2
 - Tukra-1
 - Paran-1
4. Gat Nikas :- Thaata and Murli
5. Paltas in Teentaal
6. Practical demonstration of Sammi and Naatti
7. Play Nagma in Teentaal and Swari Taal

Books Recommended

- | | | |
|---|---|------------------------|
| 1. Bharat Ke Lok Nritya | : | Dr. Laxmi Narayan Garg |
| 2. Folk Dance of Punjabi | : | Aarohi Walia |
| 3. Natyeshwarta Ka Sangeet Vivechan | : | Puru Dhadhach |
| 4. Nrityesutram | : | Puru Dhadhach |
| 5. Nritye Nibandh | : | Puru Dhadhach |
| 6. Pachchatye Nritye Kala | : | Puru Dhadhach |
| 7. Kathak Preveshika | : | Tirth Ram Azad |
| 8. Kathak Ke Pracheen Nritaang | : | Geeta Raguvir |
| 9. Kal Aaj Aur Kal | : | Shikha Shukla |
| 10. Books prescribed of B.A. Indian Classical Dance (General) | | |

B.A. (Honours) MUSIC (INDIAN CLASSICAL DANCE)**SEMESTER-VI****General Instructions:-**

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would not be more than eight students in one section in practical examination.
3. There would be upto eight students in one section in practical class.
4. In all, nine questions will be set from the whole syllabus. The question paper will be divided into five units. First four units will contain two questions each, out of which the candidates are to attempt one question from each unit, the ninth question of fifth unit is compulsory and is consists of 13 short answer questions (covering entire syllabus i.e theory & practical) out of which students have to attempt 09 questions of 01 marks each.
5. No electronic Instruments will be allowed for lehra in practical examination.
6. While sending the syllabus to paper setter in theory, the syllabus prescribed for the practical paper should also be sent.

Paper-A: THEORY (Duration 45 minutes, 02 theory periods per week) : 45 Marks

Paper-B: PRACTICAL (Duration 45 minutes, 06 practical periods per week) : 45 Marks

Paper-A Theory

Maximum Marks: 50 marks
 Theory : 45 marks
 Int. Assessment : 05marks
 Time : 3 Hours

Unit-I

1. Definitions: - Chaturang, Trivat, Tarana, Sargam, Palta.
2. Neck Movements
3. Brief note on Choreography

Unit-II

1. Knowledge of Dance forms:- Kathakali and Kathak
2. Contribution of leading Institutions of Kathak Dance
3. Importance of Thumri and Hori in Kathak Dance

Unit-III

1. Contribution of Pt. Rajinder Gangani in the field of Dance
2. Status of Dance in Society
3. Detailed knowledge of dance

Unit-IV

1. Notation of Thaata, Amad, Uthan, Tora, Mishrajati -Paran, Kavita, Premlu in Teentaal
2. Notation of Thaata, Amad, Tora, Kavita in Basant Taal
3. Notation of Thaata, Tora, Premlu, Shiv Paran in Dhamar Taal.
4. Nagma of above mentioned Taals
5. Ekgun, Dugun, Chaugun, Layakaries of above mentioned Taals

Unit-V

The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

Paper-B Practical

| | |
|-------------------|------------|
| Maximum Marks : | 50 marks |
| Theory : | 45 marks |
| Int. Assessment : | 05marks |
| Time : | 20 minutes |

1. Teentaal (16 Matra)
 - Thaat-1
 - Uthan -1
 - Amad-1
 - Tora-2
 - Mishrjati Paran-1
 - Kavit-1
 - Premelu-1
2. Basant (9 Mara)
 - Thaat-1
 - Amad-1
 - Tora-2
 - Kavit-1
3. Dhamar (14 Matra)
 - Thaat-1
 - Tora-2
 - Premelu-1
 - Shiv Paran-1
4. Gat Nikas – Ghungat, Gagri
5. Paltas in Teentaal
6. Practical demonstration in Luddi and Haryanvi
7. Play Nagma in Teentaal and Dhamar

Books Recommended

- | | | |
|---|---|------------------------|
| 1. Bharat Ke Lok Nritya | : | Dr. Laxmi Narayan Garg |
| 2. Folk Dance of Punjabi | : | Aarohi Walia |
| 3. Natyeshwartar Ka Sangeet Vivechan | : | Puru Dhadhach |
| 4. Nrityesutram | : | Puru Dhadhach |
| 5. Nritye Nibandh | : | Puru Dhadhach |
| 6. Pachchatye Nritye Kala | : | Puru Dhadhach |
| 7. Kathak Preveshika | : | Tirth Ram Azad |
| 8. Kathak Ke Pracheen Nritaang | : | Geeta Raguvir |
| 9. Kal Aaj Aur Kal | : | Shikha Shukla |
| 10. Books prescribed of B.A. Indian Classical Dance (General) | | |
