CLASS - XI

1. GENERAL ENGLISH

Time: 3 Hrs **Theory: 65 Marks**
CCE: 10 Marks
Total: 75 Marks

SYLLABUS AND THE STRUCTURE OF QUESTION PAPER

Part-I (Objective type question) 8 marks

1. It will consist of 8 objective type questions carrying one mark each. Objective type questions may include questions with one word to one sentence answer **or** fill in the blank **or** true/false **or** multiple choice type questions.
   a Lessons meant for intensive study 3×1=3
   b Lessons meant for extensive study 3×1=3
   c Grammar 2×1=2

Part-II (Reading) 10 marks

2. Seen passage for Comprehension. (passage of 150 words from intensive study followed by 5 single line comprehension questions, one on the name of the author and chapter, three single line, comprehension questions, one on Vocabulary (meanings of 2 out of 3 given words in simple English) 2+1+1+1+1 = 6 marks
3. Comprehension questions from poetry on a given stanza (4 questions including a question on name of the poet/poem, Rhyme/Simile/Metaphor/Personification/Alliteration/ Imagery etc on selected stanza).(1 out of two given stanzas to be attempted) 4 marks

Part-III (Writing) 10 marks

4. Note making/Message writing/Notice writing/Advertisement writing (to attempt 1 out of the given 2) 4 marks
5. Letter writing (only social and personal) (with internal choice) 6 marks

Part-IV (Grammar and Translation) 12 marks

6 *(Grammar to be text based up to the extent of 50% from Prose lessons meant for intensive study only)*

a) Translation (sentences from Punjabi/Hindi to English). 4 marks

b) Do as directed. 8 marks

   a. Prepositions
   b. Determiners
   c. Modals
   d. Use of the same words as verb, noun and adjectives
   e. Removal and use of too
   f. Tenses
   g. Voice
   h. Narration

Part-V (Literature) 25 marks

7. Central idea (1out of 2.) 3 marks
8. Three (out of four) short answer questions of about 40 to 50 words from intensive study. 3×2=6

9. Two (out of three) short answer questions of about 40 to 50 words from extensive study. 2×2=4

10. Long answer question (100 to 120) words on theme, incident, content, character etc. from intensive study (with internal choice). 6 marks

11. Long answer type (100-120 words) question from extensive study on Character/incident/theme etc. (with internal choice). 6 marks

SYLLABUS

Section A
Lessons for Intensive Study

1. Gender Bias
2. The Portrait of a Lady
3. Of Studies
4. Liberty and Discipline
5. A President Speaks
6. The Earth is not Ours
7. Let's Not Forget the Martyrs
8. Water- A True Elixir
9. The First Atom Bomb
10. No Time for Fear

Section B
Poetry

1. Lines Written in Early Spring
2. Mother's Day
3. Television
4. Upagupta
5. Confessions of A Born Spectator
6. The Little Black Boy
7. A Thing of Beauty is a Joy For Ever

Section C
Lessons for Extensive Study

1. An Astrologer's Day
2. The Tiger in the Tunnel
3. Sparrows
4. The Model Millionaire
5. The Panch Parmeshwar
6. The Peasant's Bread

Section D

Grammar

a. Preposition
b. Determiners
c. Use of the same word as noun, verb and adjective
d. Models
e. Tenses
f. Removal and use of too
g. Voice

h. Narration

Composition

a. Note Making

b. Message Writing

c. Notice Writing

d. Advertisement Writing

e. Letter Writing

The book prescribed & published by the Punjab School Education Board.

1. (General English XI) A Panorama of Life

Note: All the lessons in the above book are included in the syllabus. No part has been deleted.

CLASS - XI

2. ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)

ਸਮਾਂ : 3 ਘੰਟੇ **ਲਿਖਤੀ ਪੇਪਰ: 65 ਅੰਕ**

ਆਂਤਰਿਕ ਮੁਲਾਂਕਣ: 10 ਅੰਕ

ਕੁੱਲ :75 ਅੰਕ

ਅੰਕ ਵੰਡ ਅਤੇ ਪਾਠ-ਕ੍ਰਮ

ਲੜੀ ਨੰ:	ਪਾਠ-ਕ੍ਰਮ	ਅੰਕ
1.	ਪੰਜਾਬੀ ਲੋਕ ਸਾਹਿਤ:- ਲੋਕ-ਗੀਤ ਅਤੇ ਲੋਕ-ਕਥਾਵਾਂ	26
2.	ਅੰਗਰੇਜ਼ੀ ਤੋਂ ਪੰਜਾਬੀ ਵਿੱਚ ਅਨੁਵਾਦ:- ਤਕਨੀਕੀ ਸ਼ਬਦਾਵਲੀ:-ਬੈਂਕ, ਰੇਲਵੇ, ਡਾਕ, ਕੰਪਿਊਟਰ ਅਤੇ ਬੀਮਾ ਸੇਵਾਵਾਂ ਨਾਲ਼ ਸੰਬੰਧਿਤ ਵਾਕਾਂ ਵਿੱਚ ਵਰਤੋਂ	10
3.	ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਲਿਖਣ ਦਾ ਹੁਨਰ:- ਅਖ਼ਬਾਰ ਦੇ ਸੰਪਾਦਕ ਨੂੰ ਪੱਤਰ, ਇਸ਼ਤਿਹਾਰ, ਸੱਦਾ ਪੱਤਰ ਅਤੇ ਪੈਰਾ ਰਚਨਾ।	19
4.	ਵਿਆਕਰਨ:-ਮੁਹਾਵਰੇ	10
ਕੁੱਲ ਅੰਕ		**65**

ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੀ ਰੂਪ ਰੇਖਾ

ਪਰੀਖਿਆ ਪੱਖੋਂ ਅਧਿਆਪਕਾਂ, ਵਿਦਿਆਰਥੀਆਂ, ਪੇਪਰ ਸੈੱਟਰਾਂ ਅਤੇ ਪਰੀਖਿਅਕਾਂ ਲਈ ਵਿਸ਼ੇਸ਼ ਹਿਦਾਇਤਾਂ

ਪ੍ਰਸ਼ਨ ਨੰ: 1 ਸਮੁੱਚੇ ਪਾਠ-ਕ੍ਰਮ ਦੇ ਅਧਾਰ ਤੇ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲ਼ੇ ਦੱਸ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦਾ 1 ਅੰਕ ਹੋਵੇਗਾ। ਅੰਕਾਂ ਦੀ ਵੰਡ ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਹੋਵੇਗੀ :-

(ੳ) **ਪੰਜਾਬੀ ਲੋਕ-ਸਾਹਿਤ** : 2 ਅੰਕ (ਬਹੁ-ਚੋਣ, ਠੀਕ/ਗ਼ਲਤ, ਖ਼ਾਲੀ ਥਾਂਵਾਂ ਜਾਂ ਇੱਕ ਦੋ ਸ਼ਬਦਾਂ ਦੇ ਉੱਤਰ ਵਾਲ਼ੇ ਪ੍ਰਸ਼ਨ)

(ਅ) **ਲੋਕ-ਗੀਤ** : 2 ਅੰਕ (ਦੋ ਪ੍ਰਸ਼ਨ - ਦੋਵੇਂ ਪ੍ਰਸ਼ਨ ਨਿਰਧਾਰਿਤ ਪਾਠ-ਸਮਗਰੀ ਦੇ ਆਧਾਰ 'ਤੇ ਪੁੱਛੇ ਜਾਣਗੇ)।

(ਏ) **ਲੋਕ ਕਥਾਵਾਂ** : 2 ਅੰਕ (ਦੋ ਪ੍ਰਸ਼ਨ ਪਾਤਰਾਂ ਸੰਬੰਧੀ ਪੁੱਛੇ ਜਾਣਗੇ)।

(ਸ) **ਅੰਗਰੇਜ਼ੀ ਤੋਂ ਪੰਜਾਬੀ ਅਨੁਵਾਦ** : 2 ਅੰਕ(ਸਿੱਧਾ ਅਰਥ ਪੁੱਛਣਾ, ਬਹੁ-ਚੋਣ, ਮਿਲਾਨ ਕਰਨਾ) ਤਕਨੀਕੀ ਸ਼ਬਦਾਵਲੀ 'ਤੇ ਆਧਾਰਿਤ ਪਾਠ ਅਤੇ ਪਾਠ ਅਭਿਆਸ ਵਿੱਚੋ 2 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਪ੍ਰਸ਼ਨ ਦਾ ਇੱਕ ਅੰਕ ਹੋਵੇਗਾ।

(ਹ) **ਮੁਹਾਵਰੇ**:-2 ਅੰਕ (1 ਅੰਕ ਵਰਤੋਂ ਸਥਿਤੀ ਦੱਸ ਕੇ ਢੁਕਵਾਂ ਮੁਹਾਵਰਾ ਲਿਖਣ, 1 ਅੰਕ ਮੁਹਾਵਰੇ ਦੇ ਅਰਥ ਨਾਲ਼ ਸੰਬੰਧਿਤ ਬਹੁ-ਚੋਣੀ ਪ੍ਰਸ਼ਨ 'ਚੋਂ ਠੀਕ ਅਰਥ ਲਿਖਣ ਦਾ ਹੋਵੇਗਾ)। 10×1=10 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 2 ਪੰਜਾਬੀ ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਲੋਕ-ਗੀਤਾਂ ਬਾਰੇ ਦਿੱਤੇ ਪਾਠ-ਅਭਿਆਸਾਂ ਦੇ ਪ੍ਰਸ਼ਨਾਂ ਵਿੱਚੋਂ ਕੋਈ 4 ਪ੍ਰਸ਼ਨ ਦੇ ਕੇ ਦੋ ਦਾ ਉੱਤਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 5+5=10 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 3 ਪੰਜਾਬੀ ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਦਿੱਤੀਆਂ ਵੱਖ-ਵੱਖ ਵੰਨਗੀਆਂ ਦੀਆਂ ਲੋਕ-ਕਥਾਵਾਂ ਵਿੱਚੋਂ ਦੋ ਦੇ ਨਾਂ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਕਥਾ ਦਾ ਸਾਰ ਆਪਣੇ ਸ਼ਬਦਾਂ ਵਿੱਚ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 10 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 4 (ੳ) ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਦਿੱਤੀ ਗਈ ਤਕਨੀਕੀ ਸ਼ਬਦਾਵਲੀ ਵਿੱਚੋਂ ਦਸ ਸ਼ਬਦ ਦੇ ਕੇ ਕਿਸੇ ਛੇ ਦੇ ਅਰਥ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 6×1/2=3 ਅੰਕ

(ਅ) ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਦਿੱਤੇ ਗਏ ਬੈਂਕ, ਰੇਲਵੇ, ਡਾਕ ਅਤੇ ਬੀਮਾ-ਸੇਵਾਵਾਂ ਅਤੇ ਕੰਪਿਊਟਰ ਨਾਲ਼ ਸੰਬੰਧਿਤ ਅੱਠ ਵਾਕ ਦੇ ਕੇ ਕੋਈ ਪੰਜ ਵਾਕਾਂ ਦਾ ਪੰਜਾਬੀ ਅਨੁਵਾਦ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 5×1=5 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 5 ਕਿਸੇ ਮਸਲੇ/ਘਟਨਾ ਸੰਬੰਧੀ ਕਿਸੇ ਅਖ਼ਬਾਰ ਦੇ ਸੰਪਾਦਕ ਨੂੰ ਪੱਤਰ ਲਿਖਣ ਲਈ ਦੋ ਵਿਸ਼ੇ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਬਾਰੇ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 2+4+2=8 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 6 ਪੰਜਾਬੀ ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਦਿੱਤੀਆਂ ਵੰਨਗੀਆਂ ਅਨੁਸਾਰ ਇੱਕ ਇਸ਼ਤਿਹਾਰ ਜਾਂ ਸੱਦਾ-ਪੱਤਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ । 5 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 7 ਕੋਈ ਤਿੰਨ ਵਿਸ਼ੇ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਵਿਸ਼ੇ ਬਾਰੇ ਲਗ-ਪਗ 150 ਸ਼ਬਦਾਂ ਦੀ ਪੈਰਾ-ਰਚਨਾ ਕਰਨ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 6 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 8 ਪੰਜਾਬੀ ਪਾਠ- ਪੁਸਤਕ ਵਿੱਚੋਂ ਕੋਈ ਅੱਠ ਮੁਹਾਵਰੇ ਦੇ ਕੇ ਕਿਸੇ ਚਾਰ ਨੂੰ ਵਾਕਾਂ ਵਿੱਚ ਵਰਤਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 4×2=8 ਅੰਕ

ਨਿਰਧਾਰਿਤ ਪਾਠ-ਪੁਸਤਕ: ਲਾਜ਼ਮੀ ਪੰਜਾਬੀ-11

ਪ੍ਰਕਾਸ਼ਕ: ਪੰਜਾਬ ਸਕੂਲ ਸਿੱਖਿਆ ਬੋਰਡ

CLASS - XI

4. ENVIRONMENT EDUCATION

Time: 2 Hrs **Theory Marks: 45**

CCE: 05

Total Marks: 50

STRUCTURE OF QUESTION PAPER (THEORY)

1. There will be one theory paper comprising of 17 questions. All questions will be compulsory.
2. Question No. 1-5 are very short answer type question carrying 1 mark each. Answer to each question will be in one line or few words only.
3. Question No. 6-10 are short answer type questions carrying 2 marks each. Answer to each question will be in 20-30 words.
4. Question No. 11-15 are long/medium answer type question carrying 4 marks each. Answer to each question will be in 50-60 words.
5. Question No. 16 and 17 are long answer type question carrying 5 marks each. Answer to these questions will be in 80-100 words.
6. In Question No 16 and 17 there will be 100 % internal choice.
7. There will be no objective type question like yes/ No, tick/ cross, fill in the blanks, multiple choice, true/ false etc.
8. The Question paper should be strictly from the prescribed syllabus based on above mentioned guidelines.

UNIT WISE DISTRIBUTION OF MARKS

Unit	**1 Mark questions**	**2 Mark questions**	**4 Mark questions**	**5 Mark questions**
Unit I Man and Environment	1	1	1	1 or 1
Unit II Environment and Development	1	1	1	
Unit III Environment Pollution and Global issues	1	1	1	1 or 1
Unit IV Energy	1	1	1	
Unit V Safe work Environment and Occupational Hazards	1	1	1	---
Total Maks	**5 marks**	**10 marks**	**20 marks**	**10 marks**

INSTRUCTION FOR PAPER STER

1. There will be 17 questions in theory paper.
2. Questions No. 1-5 are of 1 mark each and there should be one question from each unit.
3. Question 6-10 are of 2 marks each and there should be one question from each unit.
4. Question 11-15 are of 4 marks each and there should be one question from each unit.
5. Question 16 will be of 5 marks and to be set from unit I and choice question should be set from unit II.
6. Question 17 will be of 5 marks and to be set from unit III and choice Question shuld be set from unit IV.

SYLLABUS

Unit- I Man and Environment

1. Environment

- Dimensions of Environment- physical, biological and social.

- Human being as rational and social partner in environmental actions.
- Society and environment in India: Indian traditions, customs and culture in past and present.

2. Population and Environment

- Demography, causes of increase in population and its ill effects on environment, urbanization.

3. Impact of human activities on Environment

- Environmental problems of urban and rural areas.
- Natural resources and their depletion
- Stress on civic amenities, supply of water and electricity, waste disposal, transport, health services.
- Vehicular emissions.
- Urbanisation- land use, housing, migrating and floating population.

Unit-II Envirtonment and Development

4. Economic and Social Development

- Economic and social needs as basic considerations for development.
- Agriculture and industry as major sector of development.
- Social factors affecting development- poverty, affluence, education, employment, child marriage and child labour, human health- HIV/ AIDS, social culture and ethical values.

5. Impact of Liberalization and Globalization

- Impact of liberalization and globalization- agriculture and industries, dislocation of manpower and unemployment implications for social harmony.

6. Role of Society in Development and Environment

- Role of society in development and environment- public awareness through education, eco- clubs, population education programmes and campaigans, public participation in decision making.

Unit-III Environmental Pollution and Global Issues

7. Environmental Pollution

- Air water (fresh and marine), soil pollution- sources and consequences.
- Noise and radiation polluation- sources and consequesnces.
- Solid, liquid and gaseous pollution.

8. Pollution and Diseases

- Handling of hazardous material, process and management of hazardous wastes.
- Pollution related diseases.
- Strategies for reducing pollution and improving the environment.

9. Global Issues and Improvement of Environment

- Ozone Layer depletion and its effects.
- Greenhouse effect, global warming, climate changes and their effects on human society, agriculture plants and animals.

10. Disaster

- Disaster- natural (earthquakes, droughts, floods, cyclones, landslides) and man made (technological and industrial), their impact on the environment, prevention, control and mitligation.

Unit- IV Energy

11. Energy Consumption

- Changing global pattern of energy consumption -from ancient to modern times.
- Energy consumption as a measure of quality of life.
- Rising demand for energy gap between demand and supply (Indian context.)

12. Conventional Sources of Energy

- Conventional energy sources- fossil and firwood, potential (India context) and limitations of each source, methods of harnessing energy and environment consequences of their use.

13. Non- conventional Source of Energy

- Non Conventional energy sources- type of non -conventional sources(bio- mass, solar, wind, ocean, hydel, geothermal, nuclear), potential(Indian context) and limitations of each source, methods of harnessing and their environmental consequences, need to promote non- conventional energy sources.

14. Conservation of Energy

- Conservation of energy sour ces- efficiency in production, transportation and utilization of energy.
- Future sources of energy- hydrogen, alcohal, fuel cells.

Unit V Safe work Environment and Occupational Hazards

15. Safe Work Environment

- Safe work environement- adequate light, ventilation, cleanliness, good house keeping.

16. Safety Laws, Accidents and First- Aid

- Safety awareness management- safety precautions- home and work (laboratory, workshop, work site), safe handling of equipment and materal.
- Occupational hazards- physical, chemical, mechanical, electrical, biological, radiational and psychological.
- Accidents and major hazards in industries and occupations- fire, explosion, toxic release.
- First aid measures.
- Laws and regulations related to occupational health and safety.

CCE

Instructions for CCE (15 marks)

Teachers teaching the subject of Environment Education to students will evaluate them throughout the year for the work done by the student in and around the school campus regarding environmental cleanliness, planting tress, developing herbal gardens, growing ornamental plants, medicinal plants and participating in environmental activities which are celebrated in the school. Student will also keep the record in a project file for two different projects carried by him/her. Each project will carry $7\frac{1}{2}$ marks. So over all evaluation of the student will be based on his/her performance and contribution to environment.

4. Hindi

पाठ्यक्रम 2016-17 (संशोधित)

कक्षा : ग्यारहवीं पूर्णांक - 90

विषय : हिंदी सी.सी.ई - 10

समय : 3 घंटे

विषय वस्तु	अंक
भाग-क : अति लघूत्तर प्रश्न (वस्तुनिष्ठ प्रश्न)	10
भाग-ख : पाठ्य-पुस्तक (हिंदी पुस्तक- 11)	35
भाग-ग : हिंदी साहित्य का इतिहास (आदिकाल एवं भक्तिकाल)	10
भाग-घ : रचनात्मक लेखन	15
1.पत्र-लेखन	(7)
2.अनुच्छेद लेखन	(8)
भाग-ङ : व्यावहारिक ज्ञान	15
1. पंजाबी वाक्यों का हिंदी अनुवाद	(5)
2. पारिभाषिक शब्दावली (A से लेकर I तक)	(6)
3. संक्षेपीकरण	(4)
भाग-च : रस (श्रृंगार,करुण,हास्य, शांत, रौद्र ,वीर,अद्भुत,भयानक और वीभत्स)	05

पंजाब स्कूल शिक्षा बोर्ड द्वारा निर्धारित पाठ्य-पुस्तकें

1.हिंदी पुस्तक-11
2.हिंदी भाषा बोध और व्याकरण (ग्यारहवीं और बारहवीं कक्षा के लिए)
3.हिंदी साहित्य का इतिहास (ग्यारहवीं और बारहवीं कक्षा के लिए)

प्रश्न-पत्र की रूपरेखा (संशोधित)

कक्षा : ग्यारहवीं — पूर्णांक - 90

समय : 3 घंटे — विषय : हिंदी — सी.सी.ई - 10

- प्रश्न-पत्र में कुल 16 प्रश्न होंगे ।
- सभी प्रश्न हल करने अनिवार्य होंगे ।
- प्रश्न-पत्र के छह भाग (क से च तक) होंगे ।

भाग-क : अति लघूत्तर प्रश्न (वस्तुनिष्ठ प्रश्न) 10

प्रश्न-1 : में (i) से (X) तक वस्तुनिष्ठ प्रश्न पूछे जायेंगे । प्रत्येक प्रश्न एक अंक का होगा। ये प्रश्न एक शब्द से एक वाक्य तक के उत्तर वाले अथवा हाँ/ नहीं अथवा रिक्त स्थानों की पूर्ति अथवा सही/ गलत अथवा बहुवैकल्पिक उत्तरों वाले, किसी भी प्रकार के हो सकते हैं।

(i) से (iii) तक संधि/ संधिविच्छेद से सम्बन्धित तीन वस्तुनिष्ठ प्रश्न पूछे जायेंगे। 1×3 = (3)

(iv) वाक्य विश्लेषण से सम्बन्धित एक वस्तुनिष्ठ प्रश्न पूछा जायेगा। (1)

(v) वाक्य संश्लेषण से सम्बन्धित एक वस्तुनिष्ठ प्रश्न पूछा जायेगा। (1)

(vi) से (vii) तक पाठ्य -पुस्तक (हिंदी पुस्तक-11) में से दो वस्तुनिष्ठ प्रश्न पूछे जायेंगे। 1×2 = (2)

(viii) से (ix) तक हिंदी साहित्य का इतिहास (आदिकाल एवं भक्तिकाल) में से दो वस्तुनिष्ठ प्रश्न पूछे जायेंगे। 1×2 = (2)

(x) रस से सम्बन्धित एक वस्तुनिष्ठ प्रश्न पूछा जायेगा। (1)

भाग-ख (पाठ्य -पुस्तक) 35

प्रश्न-2 (i) हिंदी पुस्तक-11 में संकलित 'प्राचीन काव्य' में से दो पद्यांश दिये जायेंगे जिनमें से एक पद्यांश की सप्रसंग व्याख्या लिखने के लिये कहा जायेगा।प्रसंग के लिये 1 अंक तथा व्याख्या के लिये 4 अंक निर्धारित हैं। 1+4= (5)

(ii) हिंदी पुस्तक-11 में संकलित 'आधुनिक काव्य' में से दो पद्यांश दिये जायेंगे जिनमें से एक पद्यांश की सप्रसंग व्याख्या लिखने के लिये कहा जायेगा।प्रसंग के लिये 1 अंक तथा व्याख्या के लिये 4 अंक निर्धारित हैं। 1+4= (5)

प्रश्न-3 (i) 'प्राचीन काव्य' की विषय वस्तु से सम्बन्धित दो लघूत्तर प्रश्न पूछे जायेंगे जिनमें से एक प्रश्न का उत्तर लगभग 50 शब्दों में लिखने के लिये कहा जायेगा। 3

(ii) 'आधुनिक काव्य' की विषय वस्तु से सम्बन्धित दो लघूत्तर प्रश्न पूछे जायेंगे जिनमें से एक प्रश्न का उत्तर लगभग 50 शब्दों में लिखने के लिये कहा जायेगा। 3

प्रश्न-4 पाठ्य - पुस्तक में संकलित गद्य भाग में से दो गद्यांश दिये जायेंगे जिनमें से एक गद्यांश की सप्रसंग व्याख्या लिखने के लिये कहा जायेगा। प्रसंग के लिये 1 अंक तथा व्याख्या के लिये 4 अंक निर्धारित हैं। 1+4= (5)

प्रश्न-5 पाठ्य - पुस्तक में संकलित गद्य भाग की विषय वस्तु से सम्बन्धित दो निबन्धात्मक प्रश्न पूछे जायेंगे जिनमें से एक प्रश्न का उत्तर लगभग 80 शब्दों में लिखने के लिये कहा जायेगा। (5)

नोट :- प्रश्न-पत्र निर्माता पाठ्य - पुस्तक में संकलित गद्य भाग (निबन्ध, कहानी एवं एकांकी) की सभी विधाओं को पूर्ण प्रतिनिधित्व दे।

प्रश्न-6 पाठ्य - पुस्तक में संकलित 'निबन्ध' भाग में से दो लघूत्तर प्रश्न पूछे जायेंगे जिनमें से एक प्रश्न का उत्तर लगभग 50 शब्दों में लिखने के लिये कहा जायेगा। (3)

प्रश्न-7 पाठ्य - पुस्तक में संकलित 'कहानी' भाग में से दो लघूत्तर प्रश्न पूछे जायेंगे जिनमें से एक प्रश्न का उत्तर लगभग 50 शब्दों में लिखने के लिये कहा जायेगा। (3)

प्रश्न-8 पाठ्य - पुस्तक में संकलित 'एकांकी' भाग में से दो लघूत्तर प्रश्न पूछे जायेंगे जिनमें से एक प्रश्न का उत्तर लगभग 50 शब्दों में लिखने के लिये कहा जायेगा। (3)

भाग-ग हिंदी साहित्य का इतिहास (आदिकाल एवं भक्तिकाल) 10

प्रश्न-9 इस प्रश्न में हिंदी साहित्य के 'आदिकाल'की प्रमुख परिस्थितियों , प्रमुख प्रवृत्तियों एवं प्रमुख कवियों से सम्बन्धित दो निबन्धात्मक प्रश्न पूछे जायेंगे जिनमें से एक प्रश्न का उत्तर लगभग 80 शब्दों में लिखने के लिये कहा जायेगा। (5)

प्रश्न-10 इस प्रश्न में हिंदी साहित्य के 'भक्तिकाल'की प्रमुख परिस्थितियों , प्रमुख प्रवृत्तियों एवं प्रमुख कवियों से सम्बन्धित दो निबन्धात्मक प्रश्न पूछे जायेंगे जिनमें से एक प्रश्न का उत्तर लगभग 80 शब्दों में लिखने के लिये कहा जायेगा। (5)

भाग-घ (रचनात्मक लेखन) 15

प्रश्न-11 यह प्रश्न पत्र- लेखन से सम्बन्धित होगा। इस प्रश्न में 100 प्रतिशत आन्तरिक विकल्प दिया जायेगा। (7)

प्रश्न-12 यह प्रश्न अनुच्छेद लेखन से सम्बन्धित होगा । कोई तीन विषय देकर उनमें से किसी एक विषय पर लगभग 120 शब्दों में अनुच्छेद लिखने के लिये कहा जायेगा। (8)

भाग-ङ (व्यावहारिक ज्ञान) 15

प्रश्न-13 यह प्रश्न अनुवाद से सम्बन्धित होगा । इस प्रश्न में पंजाबी के सात वाक्य देकर उनमें से किन्हीं पाँच वाक्यों का हिंदी में अनुवाद करने के लिये कहा जायेगा। (5)

प्रश्न-14 इसमें अंग्रेज़ी के छह पारिभाषिक शब्द दिये जायेंगे जिनमें से किन्हीं चार शब्दों के हिंदी रूप लिखकर वाक्यों में प्रयोग करने के लिये कहा जायेगा। 1½×4 (6)

प्रश्न-15 यह प्रश्न संक्षेपीकरण से सम्बन्धित होगा । कोई एक अनुच्छेद देकर उसका संक्षेपीकरण करने के लिये कहा जायेगा। (4)

भाग-च : (रस) 05

प्रश्न-16 कोई दो रस देकर किसी एक रस की परिभाषा और उदाहरण लिखने के लिये कहा जायेगा। (5)

CLASS - XI

6. ਪੰਜਾਬੀ (ਚੋਣਵਾਂ ਵਿਸ਼ਾ)

ਸਮਾਂ: 3 ਘੰਟੇ **ਲਿਖਤੀ ਪੇਪਰ: 9● ਅੰਕ**

ਆਂਤਰਿਕ ਮੁਲਾਂਕਣ: 1● ਅੰਕ

ਕੁੱਲ : 1●● ਅੰਕ

ਪਾਠ-ਕ੍ਰਮ ਅਤੇ ਅੰਕ-ਵੰਡ

ਲੜੀ ਨੰ:	ਪਾਠ-ਕ੍ਰਮ	ਅੰਕ
1.	ਪੰਜਾਬੀ-ਕਾਵਿ:- ਆਧੁਨਿਕ-ਕਾਵਿ	39
2.	ਪੰਜਾਬੀ ਵਾਰਤਕ :- ਸਫ਼ਰਨਾਮਾ-ਅੰਸ਼	27
3.	ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ	12
4.	ਪੰਜਾਬੀ ਦੀਆਂ ਉਪਭਾਸ਼ਾਵਾਂ ਦੀ ਸ਼ਬਦਾਵਲੀ	12
ਕੁੱਲ ਅੰਕ		**9●**

ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੀ ਰੂਪ ਰੇਖਾ

ਅਧਿਆਪਕਾਂ, ਵਿਦਿਆਰਥੀਆਂ, ਪੇਪਰ ਸੈੱਟਰਾਂ ਅਤੇ ਪਰੀਖਿਅਕਾਂ ਲਈ ਵਿਸ਼ੇਸ਼ ਹਿਦਾਇਤਾਂ।

ਪ੍ਰਸ਼ਨ ਨੰ:1 ਸਮੁੱਚੇ ਪਾਠ-ਕ੍ਰਮ ਦੇ ਆਧਾਰ 'ਤੇ 1● ਅੰਕਾਂ ਦੇ ਵਸਤੂ-ਨਿਸ਼ਠ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਇਹ ਪ੍ਰਸ਼ਨ ਬਹੁ-ਚੋਣ, ਠੀਕ/ਗ਼ਲਤ, ਖ਼ਾਲੀ ਥਾਂਵਾਂ ਜਾਂ ਇੱਕ ਜਾਂ ਦੋ ਸ਼ਬਦਾਂ ਵਿੱਚ ਉੱਤਰ ਦੇਣ ਵਾਲ਼ੇ ਹੋਣਗੇ। ਅੰਕਾਂ ਦੀ ਵੰਡ ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਹੋਵੇਗੀ :-

ਆਧੁਨਿਕ ਪੰਜਾਬੀ- ਕਾਵਿ (ਝਲਕਾਂ ਤੇ ਇਤਿਹਾਸ) ਭਾਗ-1

(ੳ) ਆਧੁਨਿਕ-ਕਾਵਿ: 4 ਅੰਕ (ਦੋ ਪ੍ਰਸ਼ਨ ਰਚਨਾ ਦਾ ਕਵੀ ਜਾਂ ਕਵੀ ਦੀ ਰਚਨਾ ਨਾਲ਼ ਸੰਬੰਧਿਤ, ਦੋ ਪ੍ਰਸ਼ਨ ਪਾਠ-ਸਮਗਰੀ 'ਤੇ ਆਧਾਰਿਤ ਹੋਣਗੇ)।

(ਅ) ਅੱਖੀਂ ਡਿੱਠੀ ਦੁਨੀਆਂ: 2 ਅੰਕ (ਇੱਕ ਪ੍ਰਸ਼ਨ ਸਫ਼ਰਨਾਮਾ-ਅੰਸ਼ ਦੇ ਲੇਖਕ/ਲੇਖਕ ਰਚਿਤ ਸਫ਼ਰਨਾਮਾ-ਅੰਸ਼ ਨਾਲ਼ ਸੰਬੰਧਿਤ, ਦੂਜਾ ਪ੍ਰਸ਼ਨ ਸਫ਼ਰਨਾਮਾ-ਅੰਸ਼ਾਂ ਦੀ ਪਾਠ -ਸਮਗਰੀ 'ਤੇ ਆਧਾਰਿਤ ਹੋਵੇਗਾ)।

(ਇ) ਭਾਸ਼ਾ-ਬੋਧ: 4 ਅੰਕ

- ਇੱਕ ਪ੍ਰਸ਼ਨ ਭਾਸ਼ਾ ਦੀ ਬਣਤਰ ਜਾਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ ਭਾਸ਼ਾ ਦੇ ਮਹੱਤਵ ਨਾਲ਼ ਸੰਬੰਧਿਤ।
- ਇੱਕ ਪ੍ਰਸ਼ਨ ਗੁਰਮੁਖੀ ਲਿਪੀ ਨਾਲ਼ ਸੰਬੰਧਿਤ।
- ਦੋ ਪ੍ਰਸ਼ਨ ਉਪਭਾਸ਼ਾਈ ਸ਼ਬਦਾਵਲੀ ਨਾਲ਼ ਸੰਬੰਧਿਤ ਹੋਣਗੇ। 1●×1=1● ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 2 'ਆਧੁਨਿਕ ਪੰਜਾਬੀ-ਕਾਵਿ (ਝਲਕਾਂ ਤੇ ਇਤਿਹਾਸ)' ਪਾਠ-ਪੁਸਤਕ ਦੇ ਆਧੁਨਿਕ-ਕਾਵਿ ਵਿੱਚੋਂ ਚਾਰ ਬੰਦ ਦੇ ਕੇ ਕਿਸੇ ਦੋ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ ਕਰਨ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 7+7=14 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 3 'ਆਧੁਨਿਕ ਪੰਜਾਬੀ-ਕਾਵਿ (ਝਲਕਾਂ ਤੇ ਇਤਿਹਾਸ)' ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚੋਂ ਕੋਈ ਦੋ ਰਚਨਾਵਾਂ ਦਾ ਸਿਰਲੇਖ ਅਤੇ ਕਵੀ ਦਾ ਨਾਂ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਦਾ ਕੇਂਦਰੀ ਭਾਵ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 6 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 4 'ਆਧੁਨਿਕ ਪੰਜਾਬੀ-ਕਾਵਿ (ਝਲਕਾਂ ਤੇ ਇਤਿਹਾਸ)' ਪਾਠ-ਪੁਸਤਕ ਦੇ 'ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਸੰਖੇਪ ਇਤਿਹਾਸ' ਭਾਗ ਵਿੱਚੋਂ ਕੋਈ ਤਿੰਨ ਪ੍ਰਸ਼ਨ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਦਾ ਉੱਤਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 15 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 5 'ਅੱਖੀਂ ਡਿੱਠੀ ਦੁਨੀਆਂ' ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚੋਂ ਛੋਟੇ ਉੱਤਰਾਂ ਵਾਲ਼ੇ ਚਾਰ ਪ੍ਰਸ਼ਨ ਪੁੱਛ ਕੇ ਕਿਸੇ ਦੋ ਦਾ ਉੱਤਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 5+5=1● ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 6 'ਅੱਖੀਂ ਡਿੱਠੀ ਦੁਨੀਆਂ' ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚੋਂ ਤਿੰਨ ਸਫ਼ਰਨਾਮਾ-ਅੰਸ਼ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਦਾ ਸਾਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 15 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 7 'ਭਾਸ਼ਾ-ਬੋਧ' ਪਾਠ-ਪੁਸਤਕ 'ਤੇ ਆਧਾਰਿਤ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ ਨਾਲ਼ ਸੰਬੰਧਿਤ ਚਾਰ ਪ੍ਰਸ਼ਨ ਪੁੱਛ ਕੇ ਕਿਸੇ ਦੋ ਦਾ ਉੱਤਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 5+5=1● ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 8 'ਭਾਸ਼ਾ-ਬੋਧ' ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਦਿੱਤੀਆਂ ਪੰਜਾਬੀ ਦੀਆਂ ਉਪਭਾਸ਼ਾਵਾਂ ਦੀ ਸ਼ਬਦਾਵਲੀ 'ਤੇ ਆਧਾਰਿਤ ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ-

(ੳ) ਉਪਭਾਸ਼ਾਈ ਅੱਠ ਸ਼ਬਦ ਦੇ ਕੇ ਉਹਨਾਂ ਵਿੱਚੋਂ ਕਿਸੇ ਪੰਜ ਦਾ ਟਕਸਾਲੀ ਪੰਜਾਬੀ ਵਿੱਚ ਰੂਪਾਂਤਰ ਕਰਨ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ।

(ਅ) ਟਕਸਾਲੀ ਪੰਜਾਬੀ ਦੇ ਅੱਠ ਸ਼ਬਦ ਦੇ ਕੇ ਕਿਸੇ ਪੰਜ ਦਾ ਉਪਭਾਸ਼ਾ ਵਿੱਚ ਮਿਲ਼ਦਾ ਰੂਪ ਪੁੱਛਿਆ ਜਾਵੇਗਾ।

5+5=1● ਅੰਕ

ਨਿਰਧਾਰਿਤ ਪਾਠ-ਪੁਸਤਕਾਂ:-

1. ਆਧੁਨਿਕ ਪੰਜਾਬੀ-ਕਾਵਿ (ਝਲਕਾਂ ਤੇ ਇਤਿਹਾਸ)
2. ਅੱਖੀਂ ਡਿੱਠੀ ਦੁਨੀਆਂ
3. ਭਾਸ਼ਾ -ਬੋਧ

ਪ੍ਰਕਾਸ਼ਕ: ਪੰਜਾਬ ਸਕੂਲ ਸਿੱਖਿਆ ਬੋਰਡ।

CLASS - XI

8. ENGLISH ELECTIVE

Time: 3 Hrs **Theory: 90 Marks**
CCE: 10 Marks
Total: 100 Marks

STRUCTURE OF QUESTION PAPER

Part-A

Objective type question No.1 will be compulsory (10 marks)

(1) It will consist of 10 objective type questions carrying one mark each. Objective type questions may include questions with one word to one sentence answer **or** fill in the blank **or** true/false **or** multiple choice type questions.

- English Reader Book-V 5
- Selections from English Verse 2
- A Book of Essays and Stories 3

PART-B (ENGLISH READER BOOK-V) (18 marks)

Text for detailed study

(2) Comprehension of a passage

Comprehension is to be tested with the help of the following techniques:

(i) Who spoke/wrote these words to whom/about whom/name of the chapter and the author

(ii) Short - answer type questions

(iii) Matching exercise

(iv) Fill in the blanks

(v) Meanings of difficult words in simple English 10 marks

(3) (a) An essay type question in about 125 words on character-sketch/ theme etc. (with internal choice) 4

(b) An essay type question in about 125 words on the main incident/episode etc. (with internal choice) 4

Part -C (SELECTIONS FROM ENGLISH VERSE)

Text for detailed study (10 marks)

(4) (a) Explanation with Reference to the Context (One out of two stanzas) 6

(b) Central idea of a poem 4

Part-D (A BOOK OF ESSAYS AND STORIES) (20 marks)

Text for detailed study

(5) (a) Short answer type questions from different lessons (four out of six) 4×3=12

(b) One essay type question on incident/episode/character-sketch/theme etc. (with internal choice) 8

PART-E (COMPOSITION And GRAMMAR) (31 marks)

(6) Application/Letter 10

(7) Essay (One out of three) 6

(8) Do as directed type question covering the following items:

(i) Voice 2

(ii) Narration 2

(iii) Use of words as a noun, a verb or an adjective/an adverb in a sentence (Only one word) 1

(iv) Combining two sentences with appropriate linkers. 1

(v) Fill in the blank with a suitable preposition or a determiner. 1

(vii) Various concepts 2

(viii) Transformation of sentences 1

1. Translation from English into Vernacular 5

(A running passage of 4 sentences only)

Note: A special question in lieu of translation for foreign students.

SYLLABUS

Book-I English Reader Book V

1. The Young Akbar
2. The Story of Sri Rama's Exile
3. The Discovery of Penicillin
4. The Story of Michael
5. Guru Gobind Singh
6. Sohrab and Rustam-I
7. Sohrab and Rustam-II
8. A Modern Miracle
9. Abou Hassan and his Wife
10. A Spark Neglected Burns the House-I
11. A Spark Neglected Burns the House II

Book-II Selections From English Verse

1. The Way of Poetry – *William Blake*
2. Going Downhill on a Bicycle – *H.C. Beeching*
3. My Native Land – *Walter Scott*
4. The Snake – *Emily Dickinson*
5. Abou Ben Adhem – *Leigh Hunt*
6. The Patriot – *Robert Browning*
7. The Brook – *Alfred Lord Tennyson*
8. Casabianca – *Mrs Hemans*
9. Robin Hood and Alan-A-Dale *(Anonymous)*
10. Elegy on the Death of a Mad Dog – *Oliver Goldsmith*
11. We are Seven – *William Wordsworth*
12. Lady Clare - *Alfred Lord Tennyson*
13. The Charge of the Light Brigade - *Alfred Lord Tennyson*

Book-III A Book of Essays and Stories

1. The Real Princess
2. Gulliver in Lilliput
3. Tom Whitewashes a Fence
4. A Street Scene
5. Build Yourself for Leadership
6. Controlling the Mind
7. Three Questions
8. The Cabuliwallah
9. The Emperor's New Clothes
10. Gandhi's Appeal
11. The Judgement Seat of Vikramaditya
12. The Black Cat
13. The Happy Prince
14. The Bet
15. The Last leaf

APPLIED GRAMMAR

1. The Sentence and its Foms
2. The Sentence and its Kinds
3. The Clause and its Kinds
4. The Structure of the Noun Phrase
5. Nouns
6. Pronouns
7. Determiners (The Use of Articles and their Equivalents)
8. Adjectives
9. The Structure of the Verb Phrase
10. The Main Verb: Transitive and Intransitive
11. Linking Verbs
12. The Tense
13. Preposition and Prepositional Phrases
14. Adverbs
15. Conditional Sentences
16. Adjective Clauses
17. Active and Passive Voice
18. Direct and Indirect Speech
19. Vocabulary Expansion
20. Short Responses
21. Various Concepts- How to express them(1)
22. Various Concepts- How to express them(2)
23. The Patterning of Certain Verbs

Composition

1. Translation from English into Vernacular
2. Application
3. Letter
4. Essay

Note: A paragraph in lieu of translation for foreign students.

Books Prescribed & Published by the Punjab School Education Board.

1. English Reader Book-V
2. Selections from English Verse
3. A Book of Essays and Stories
4. A Practice Book of English Grammar

Note: All the lessons in the above books are included in the syllabus. No part has been deleted.

CLASS - XI

18. ਧਰਮ

ਸਮਾਂ: 3 ਘੰਟੇ **ਲਿਖਤੀ ਪੇਪਰ: 9● ਅੰਕ**

ਸੀ.ਸੀ.ਈ.: 1● ਅੰਕ

ਕੁੱਲ: 1●● ਅੰਕ

ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੀ ਰੂਪ-ਰੇਖਾ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਵਿੱਚ ਕੁੱਲ 32 ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ।
2. ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਲਾਜ਼ਮੀ ਹੋਣਗੇ।
3. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਚਾਰ ਭਾਗਾਂ ਵਿੱਚ ਵੰਡਿਆ ਹੋਵੇਗਾ। ਹਰ ਭਾਗ ਸਾਰੇ ਪਾਠ-ਕ੍ਰਮ ਤੇ ਅਧਾਰਿਤ ਹੋਵੇਗਾ।

ਭਾਗ-I ਵਿੱਚ ਦਸ (1●) ਵਸਤੂਨਿਸ਼ਠ ਪ੍ਰਸ਼ਨ (1 ਤੋਂ1●) ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਪ੍ਰਸ਼ਨ ਇੱਕ ਅੰਕ ਦਾ ਹੋਵੇਗਾ। ਵਸਤੂਨਿਸ਼ਠ ਪ੍ਰਸ਼ਨ ਇੱਕ ਸ਼ਬਦ ਤੋਂ ਇਕ ਵਾਕ ਤੱਕ ਦੇ ਉੱਤਰ ਵਾਲੇ **ਜਾਂ** ਹਾਂ/ਨਾਂ **ਜਾਂ** ਖਾਲੀ ਥਾਂ ਭਰੋ **ਜਾਂ** ਠੀਕ/ਗਲਤ **ਜਾਂ** ਬਹੁ-ਭਾਂਤੀਉੱਤਰਾਂ ਵਾਲੇ, ਕਿਸੇ ਵੀ ਤਰ੍ਹਾਂ ਦੇ ਹੋ ਸਕਦੇ ਹਨ। 1●×1=1●

ਭਾਗ-II ਵਿੱਚ ਅੱਠ (8) ਛੋਟੇ ਉੱਤਰਾਂ ਵਾਲੇ (ਟਾਈਪ I) ਪ੍ਰਸ਼ਨ (11 ਤੋਂ 18) ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਪ੍ਰਸ਼ਨ 2 ਅੰਕ ਦਾ ਹੋਵੇਗਾ ਜਿਸ ਦਾ ਉੱਤਰ 3●-35 ਸ਼ਬਦਾਂ ਵਿੱਚ ਹੋਵੇ। 8×2=16

ਭਾਗ-III ਵਿੱਚ ਦਸ (1●) ਛੋਟੇ ਉੱਤਰਾਂ ਵਾਲੇ (ਟਾਈਪ II) ਪ੍ਰਸ਼ਨ (19 ਤੋਂ 28) ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਪ੍ਰਸ਼ਨ 4 ਅੰਕ ਦਾ ਹੋਵੇਗਾ, ਜਿਸ ਦਾ ਉੱਤਰ 6● ਤੋਂ 7● ਸ਼ਬਦਾਂ ਵਿੱਚ ਹੋਵੇ। 1● ਪ੍ਰਸ਼ਨਾ ਵਿੱਚੋਂ, ਤਿੰਨ ਪ੍ਰਸ਼ਨ ਅੰਦਰੂਨੀ ਛੋਟ ਵਾਲੇ ਹੋਣਗੇ।

1●×4=4●

ਭਾਗ-IV ਵਿੱਚ ਚਾਰ(4) ਅੰਦਰੂਨੀ ਛੋਟ ਵਾਲੇ ਨਿਬੰਧਾਤਮਕ ਪ੍ਰਸ਼ਨ (29 ਤੋਂ 32) ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਪ੍ਰਸ਼ਨ 6 ਅੰਕ ਦਾ ਹੋਵੇਗਾ, ਜਿਸ ਦਾ ਉੱਤਰ, ਉੱਤਰ ਪੱਤਰੀ ਦੇ 1½ ਪੰਨੇ ਤੋਂ 2 ਪੰਨਿਆਂ ਦਾ ਹੋਵੇ। 4×6=24

ਪਾਠ-ਕ੍ਰਮ ਦੇ ਭਾਗਾਂ ਅਨੁਸਾਰ ਪ੍ਰਸ਼ਨਾਂ ਅਤੇ ਅੰਕਾਂ ਦੀ ਵੰਡ

ਪਾਠ-ਕ੍ਰਮ

ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਕਿਸਮ	ਅੰਕ ਪ੍ਰਤੀ ਪ੍ਰਸ਼ਨ	ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਗਿਣਤੀ	ਪਾਠ-ਕ੍ਰਮ ਦੇ ਭਾਗਾਂ ਅਨੁਸਾਰ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ		ਕੁੱਲ ਅੰਕ
			ਭਾਗ 'ਓ'	ਭਾਗ 'ਅ'	
ਵਸਤੂ ਨਿਸ਼ਠ	1 ਅੰਕ	1●	5	5	1●
ਛੋਟੇ ਉੱਤਰਾਂ ਵਾਲੇ (ਟਾਈਪ I)	2 ਅੰਕ	●8	3	5	16
ਛੋਟੇ ਉੱਤਰਾਂ ਵਾਲੇ (ਟਾਈਪ II)	4 ਅੰਕ	1●	5	5	4●
ਵੱਡੇ ਉੱਤਰਾਂ ਵਾਲੇ	6 ਅੰਕ	●4	2	2	24
ਕੁੱਲ		**32**	**15**	**17**	**9●**

ਭਾਗ (ਓ)

ਪਵਿੱਤਰ ਵਿਅਕਤੀਆਂ ਦੀਆਂ ਜੀਵਨੀਆਂ

ਇਕਾਈ 1. ਭਗਵਾਨ ਕ੍ਰਿਸ਼ਨ, ਭਗਵਾਨ ਮਹਾਂਵੀਰ, ਭਗਵਾਨ ਮਹਾਤਮਾ ਬੁੱਧ ਅਤੇ ਸ਼੍ਰੀ ਸ਼ੰਕਰਾਚਾਰੀਆ।

ਇਕਾਈ 2. ਯਸ਼ੂ ਮਸੀਹ ਅਤੇ ਹਜ਼ਰਤ ਮੁਹੰਮਦ ਸਾਹਿਬ।

ਇਕਾਈ 3. ਭਗਤ ਕਬੀਰ, ਸ਼੍ਰੀ ਗੁਰੂ ਨਾਨਕ ਦੇਵ, ਸ਼੍ਰੀ ਚੈਤੰਨਆਂ, ਸ਼੍ਰੀ ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਅਤੇ ਸ਼੍ਰੀ ਰਾਮ ਕ੍ਰਿਸ਼ਨ।

ਭਾਗ (ਅ)

ਪਵਿੱਤਰ ਗ੍ਰੰਥਾਂ ਦਾ ਅਧਿਐਨ

ਇਕਾਈ 1 **ਹਿੰਦੂ ਧਰਮ, ਜੈਨ ਧਰਮ ਅਤੇ ਬੁੱਧ ਧਰਮ:**

ਮਹਾਂਭਾਰਤ ਦੇ ਚੋਣਵੇਂ ਅੰਸ਼, ਮੰਨੂ ਸਿਮਰਤੀ, ਵਿਸ਼ਨੂੰ ਸਿਮਰਤੀ, ਭਾਗਵਦਗੀਤਾ, ਉਪਨਿਸ਼ਦ, ਮਹਾਂਨਿਰਵਾਣ, ਤੰਤਰ, ਇਹਨਾਂ ਗ੍ਰੰਥਾਂ ਦੇ ਚੋਣਵੇਂ ਅੰਸ਼ਾਂ ਵਿੱਚ ਪ੍ਰਯੋਗ ਹੋਏ ਸੰਕਲਪ।

ਅਚਾਰੰਗ-ਸੂਤਰ, ਕਪਲ ਸੂਤਰ, ਉੱਤਰ ਧਿਆਨ ਸੂਤਰ, ਸੰਨਯਾਤ ਨਿਕਾਇਆ, ਧਮਪਦ, ਮਧਿਆਮਿਕਾ, ਮਹਾਂ ਵਨਗਾ, ਮਹਾਂ ਮੰਗਲ ਸੂਤਰ, ਬੁਧਚਰਿਆ ਅਵਤਾਰ, ਅਰਹਤ ਦਾ ਸੰਕਲਪ, ਅਸ਼ਟਾਂਗ ਮਾਰਗ, ਬੋਧੀ ਸਤਵ, ਸੰਘ, ਪੰਚ ਸਕੰਧ, ਨਿਰਵਾਣ।

ਇਕਾਈ 2 **ਜੁਡਾਇਜ਼ਮ, ਇਸਾਈ ਮਤ ਅਤੇ ਇਸਲਾਮ:**

ਪੁਰਾਣੀ ਬਾਈਬਲ ਦੇ ਚੋਣਵੇਂ ਅੰਸ਼, ਦਸ ਆਦੇਸ਼, ਨਵੀਂ ਬਾਈਬਲ ਦੇ ਚੋਣਵੇਂ ਅੰਸ਼, ਅੱਲ੍ਹਾ ਦਾ ਸੰਕਲਪ।

ਇਕਾਈ 3 **ਸਿੱਖ ਧਰਮ:**

ਸ਼੍ਰੀ ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਜੀ, ਸ਼੍ਰੀ ਗੁਰੂ ਅਮਰਦਾਸ ਜੀ, ਸ਼੍ਰੀ ਗੁਰੂ ਰਾਮਦਾਸ ਜੀ, ਸ਼੍ਰੀ ਗੁਰੂ ਅਰਜਨ ਦੇਵ ਜੀ, ਸ਼੍ਰੀ ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਜੀ, ਬਾਬਾ ਸ਼ੇਖ ਫਰੀਦ ਜੀ, ਭਗਤ ਕਬੀਰ ਜੀ, ਭਗਤ ਰਵਿਦਾਸ ਜੀ, ਭਗਤ ਧੰਨਾ ਜੀ, ਸ਼੍ਰੀ ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਜੀ ਦੇ ਸ਼ਬਦ, ਚੋਣਵੀਆਂ ਰਚਨਾਵਾਂ ਵਿੱਚ ਪ੍ਰਯੁਕਤ ਸੰਕਲਪ।

CLASS - XI

28. PSYCHOLOGY

Time: 3 Hrs **Theory: 70 Marks**
Time: 3 Hrs **Practical: 20 Marks**
CCE: 10 Marks
Total: 100 Marks

STRUCTURE OF QUESTION PAPER

1. The Question paper will comprise of 26 questions in total.
2. All questions will be compulsory to attempt.
3. The question paper will consist of four parts:

Part-I will consist of eight (8) objective type questions (Q.No.1 to 8) carrying 1 mark each. Objective type questions may include questions with one word to one sentence answer **or** fill in the blank **or** true/false **or** multiple choice type questions. 8×1=8

Part-II will consist of eight (8) short answer type I, questions (Q. No. 8 to 15) carrying 2 marks each. Answer of each question should be given in 50-60 words. 8×2=16

Part-III will consist of seven (7) short answer type II, questions (Q. No. 15 to 21) carrying 4 marks each. Answers of each question should be given in 80-90 words. Out of seven, two internal choice questions will be asked. 7×4=28

Part-IV will consist of three (3) long answer type questions with internal choice (Q. No. 22 to24) carrying 6 marks each. Answer of each question should be given in approximately two pages of the answer sheet. 3×6=18

UNITWISE DISTRIBUTION OF QUESTIONS AND MARKS

Type of question	**Marks per question**	**No. of questions**	**Unitwise Distribution Of Questions**								**Total Marks**
			Unit-I	**Unit-II**	**Unit-III**	**Unit-IV**	**Unit-V**	**Unit-VI**	**Unit-VII**	**Unit-VIII**	
Objective type	1 Mark	8	1	1	1	1	1	1	1	1	**8**
Short answer type-I	2 Marks	8	1	1	1	1	1	1	1	1	**16**
Short answer type-II	4 Marks	7	1	1	1	1	-	1	1	1	**28**
Long answer type	6 Marks	3	-	-	1	-	1	-	1	-	**18**
Total		**26**	**3**	**3**	**4**	**3**	**3**	**3**	**4**	**3**	**70**

SYLLABUS
PART-A

Unit-I Psychology as a Science of Behaviour:

Nature of psychology, Importance of psychology in life. Its concept and Definition-Fields of Psychology-Relationship of Psychology with Physiology, Sociology and Education.

Unit-II Methods of Psychology:

Introspection, observation, Experimental and Case History Methods.

Unit-III Psychological Basis of Behaviour:

Response Mechanism: Meaning, Definition and Parts, i.e. Receptors, Effectors and Connections- Basic Unit of Nervous System: The Neurons and its kinds-Nerve Impulse and Reflex Action-Classification of Receptors according to Position and Function. Major Parts of Brain and their functions-The structure and function of Spinal Cord-The structure and function of Autonomic Nervous System, Endocrine glands and the effect of their Harmones on Behaviour.

Unit-IV Sensory Processes

Definition, Meaning, Threshold and characteristics of Sensations-kinds of sensations with special reference to visual sensation.

-Eye as a Sense Organ-Colour Blindness and After Images.

Unit-V: Perception: Nature and Meaning. Difference between Illusions and Hallucinations.

Unit-VI: Attention: Meaning, Definition and characteristics of Attention-Factors affecting attention-span, Division and Distraction of Attention.

Unit-VII: Learning: Meaning, Definition and views regarding Nature of Learning-Characteristics of Learning-Methods and theories of Learning: Leaning through trial and error, Insight theory of Learning. Laws of lemming.

Unit-VIII: Memory: Meaning, Definition and characteristics of Memory-Kinds of Memory-Processes of Memory: Recognition, Retention, Recall, Memorization-Forgetting and its Causes.

EXPERIMENTS

1. Negative After image
2. Mapping of Sensory Spots in the skin
3. Mapping of blind spot
4. Span of Attention
5. Mirror Drawing Experiment
6. Retention by Recall
7. Immediate Memory Span
8. Division of Attention

CLASS - XI

29. HOME SCIENCE

Time: 3 Hrs **Theory: 60 Marks**
Time: 3 Hrs **Practical: 30Marks**
CCE: 10 Marks
Total: 100 Marks

STRUCTURE OF QUESTION PAPER (Theory)

The question paper will comprise of 22 questions in total.
All questions will be compulsory to attempt.
The question paper will consist of three parts with each part representing both sections.

Part-I will consist of 7 objective type questions (Q. no. 1 to 7) carrying one mark each. Objective type questions may include questions with one word to one sentence answer **or** fill in the blank **or** true/false **or** multiple choice type questions.
7×1=7 Marks

Part-II will consists of 11 short answer type questions (Q. no. 8 to 18) carrying 3 marks each.Any four questions out of 10 will carry internal choice (two from each section). Answer of each question should be given within 60-80 words.
11×3=33 Marks

Part-III will consist of 4 long answer type questions (Q. no.19 to 22) with internal choice (from the same section) carrying 5 marks each. Answer of each question should be given within 150-200words. 4×5=20 Marks

SECTIONWISE DISTRIBUTION OF QUESTIONS AND MARKS

Type of question	**Marks per question**	**No. of Questions**	**Section wise Distribution of questions**		**Total Marks**
			Section A	**Section B**	
Objective type	1 Mark	7	3	4	**7**
Short answer type	3 Marks	11	6	5	**33**
Long answer type	5 Marks	04	2	2	**20**
Total		**22**	**11**	**11**	**60**

SYLLABUS (THEORY)
SECTION – A
(Family Resource Management)

1. Meaning and Scope of Home Science

i. Meaning
ii. Five major areas of home science
iii. Significance of home science in improving quality of life

2. Management Concepts

i. Meaning of management
ii. Purpose of home management
iii. Management process- planning, controlling, evaluation
iv. Motivational factors of management (values, goals, standards and decision making)
v. Qualities of an efficient home manager

3. Management of Resources in day to day Living

i. Meaning, type and characteristics of resources
ii. Time and energy management
- Steps in time and energy management
- Work simplification techniques

iii. Money management

- Steps in money management
- Methods of supplementing family income
- Wise buying and saving practices
- Saving and investment

4. Cleaning and Maintenance of House and Household Items

i. General principles for cleaning and cleaning schedule

ii. Cleaning tools and cleansing materials

iii. Cleaning of different metals/materials used in household

iv. Eco friendly substitutes for cleaning household items and surfaces

5. Interior decoration and Space Management

i. Importance and objectives of interior decoration

ii. Use of art principles in home decoration

iii. Spaces managements through use of colour, light, accessories and furniture

6. Consumer Protection & Education

i. Need and importance for consumer education

ii. Consumer problems related to purchase of household items

iii. Consumer aids- labels, standardization marks, labels, advertisements

iv. Consumer's rights and responsibilities

v. Consumer Protection Act, 1986 and seeking redressal for grievances.

SECTION – B

(Apparel and Textile Science)

1. Fibre Science

i. Classification of fibres

ii. Sources, characteristics and suitability for use of cotton, wool, silk and nylon

2. Fabric Construction and Finishes

i. Yarns-

   a. Simple

   b. Novelty

ii. Weaving-

   a. Basic weave mechanism

   b. Plain, twill, satin and sateen weaves

iii. Knitting, knotting, crocheting, braiding, felting and bonding

iv. Purpose and classification of finishes

v. Brief introduction to mercerization, bleaching, stiffening, tentering, calendaring, scouring

3. Dyeing and Printing

i. Purpose and types

ii. Plain dyeing

iii. Tie and dye

iv. Batik, block, stencil and spray printing

4. Elements and Principles of Design and their Impact

5. Selection, Care, Maintenance and Storage of Clothes

i. Factors influencing selection of apparel

ii. Check points before buying readymade garments

iii. Care labels on fabric and readymade garaments.

iv. Soaps and detergents

v. Stain Removal

vi. Care and storage

STRUCTURE OF QUESTION PAPER (PRACTICAL)

Time: 3 Hours **Marks: 30**

There should not be more than 25 candidates in a group. The Practical question paper will consist of two sections. Distribution of Marks will be as follows:

1. Viva Voce, Notebook & Record 5 Marks

Section-A (Family Resource Management)

2. Any one practical from practical no. 1, 2, 3, 4, 5,9 and 10 5 Marks
3. Any one practical from practical no. 6, 7 and 8 5 Marks

Section-B (Apparel and Textile Science)

4. Any one sample from practical no. 1 and 2

   or

   Any one sample from practical no. 3 and 4 5Marks
5. Any one sample from practical no. 5 and 6

   or

   Any one sample from practical no. 7, 8 and 9 5 Marks
6. Any one stain removal from practical no. 10. 5 Marks

SYLLABUS (PRACTICAL)

SECTION – A (Family Resource Management)

1. Organisation and Evaluation of work centers
2. Preparation of family budget
3. Opening and Operating a bank account
4. Identification of food adulterants through simple tests
5. Cleanning of Household articles/Surfaces
6. Flower arrangement
7. Tables setting and table etiquettes
8. Floor decoration
9. Critical analysis of labels
10. Practical experience of seeking redressal under consumer Act, 1986

SECTION – B (Apparel and Textile Science)

1. To identify different fibres by burning test
2. Preparation of paper samples for plain, twill, satin and sateen weaves.
3. Preparation of three knitting sample- knit stitch, purl stitch, combination of knit and purl stitch.
4. Preparation of two samples of crocheting
5. Preparation of five samples of tie and dye
6. Preparation of two samples of batik in at least three different colours
7. Preparation of two samples of block printing in at least two different colours
8. Preparation of one sample of spray printing
9. Preparation of one sample of stencil printing
10. Stain removal – ball pen, blood, grease, tea, curry

CLASS-XI
39. PHYSICS

Time: 3 Hrs **Theory: 70Marks**
Practical: 20 Marks
C.C.E.: 10 Marks
Total: 100 Marks

STRUCTURE OF QUESTION PAPER (THEORY)

1. There will be one theory paper comprising of 26 questions.
2. Question no. 1 to 8 will be of one mark each.
3. Question no.9 to 16 will be of two marks each.
4. Question no. 17 to 23 will be of four marks each. There will be internal choice in any two questions.
5. Question no. 24 to 26 will be of six marks each. There will be100% internal choice in them.
6. Distribution of marks over different dimensions of the paper will be as follows:

LEARNING OUTCOMES	MARKS	PERCENTAGE OF MARKS
KNOWLEDGE	26	36%
UNDERSTANDING	30	44%
APPLICATION	14	20%
Total	**70**	**100%**

7. In the category of one (1) mark question there will be four questions of the objective type such as Yes/No, tick/cross, fill in the blanks, multiple choice, true/false etc.
8. Use of un-programmable calculator is allowed. The log tables can be used.
9. Total weightage of numerical will be 20% i.e 14 marks. There will be three numerical of 2 marks each & 2 numericals of 4 marks each.

UNIT WISE DISTRIBUTION OF MARKS

UNIT	TITLE	MARKS
UNIT-I	Physical world and measurement	05
UNIT-II	Kinematics	07
UNIT-III	Laws of motion	07
UNIT-IV	Work, Energy & Power	07
UNIT-V	Motion of System of Particles & Rigid body	09
UNIT-VI	Gravitation	06
UNIT-VII	Properties of Bulk matter	12
UNIT-VIII	Thermodynamics	05
UNIT-IX	Behaviour of perfect gas and kinetic theory of gases	05
UNIT-X	Oscillation & waves	07
Total Marks		**70**

SCHEMATIC DISTRIBUTION OF MARKS

UNIT	TITLE	1 MARK QUESTION	2 MARKS QUESTION	4 MARKS QUESTION	6 MARKS QUESTION	TOTAL MARKS
1	Physical world & measurement	1	2	-	-	05
2	Kinematics	1	1	1	-	07

3	Laws of motion	1	1	1	-	07
4	Work, Energy & Power	1	1	1	-	07
5	Motion of System Particles & Rigid body	1	1	-	1	09
6	Gravitation	-	1	1	-	06
7	Properties of matter	-	1	1	1	12
8	Thermodynamics	1	-	1	-	05
9	Behaviour of Perfect gas & Kinetic theory of gases	1	-	1	-	05
10	Oscillation & waves	1	-	-	1	07
Total Questions		**08**	**08**	**07**	**03**	**26**
Total Marks		**08**	**16**	**28**	**18**	**70**

INSTRUCTIONS FOR PAPER SETTER

Note:

1. There will be one theory paper consisting of total 26 questions.
2. Question no.1 to 8 will be of 1 mark each.
3. Question no.9 to 16 will be of 2 marks each. There will be 3 numerical questions of 2 marks each.
4. Question no. 17 to 23 will be of 4 marks each. There will be two four marks questions of internal choice. Each of these questions will have one theory question & other part will be numerical from the same unit.
5. Question No.24 to 26 will be 6 marks and their will be 100% internal choice in them. These questions must have two parts: part (a) will be of one mark and part (b) will be of 5 marks. Part (a) may cover any topic from same unit as of long 5 marks question of part (b).
6. Questions paper should cover all the syllabus.
7. No question or topic should be repeated in the question paper.
8. Questions in the paper can be asked only from mentioned PSEB syllabus. Questions from any topic which is not mentioned in the syllabus will be considered as out of syllabus question.
9. All 3 sets must be of equal standard and difficulty level questions.
10. At the end of each question, paper setter must write detailed distribution of marks of each sub-question.
11. Vague, many possible answer questions, confusing answer question etc type of question will not be asked in the paper. One mark questions, answer should be of one word or one line only.
12. Language used should be clearly understood & specific.
13. Time and length limit of paper should be kept in mind.

SYLLABUS (THEORY)

Unit I : Physical World and Measurement

Physics-scope and excitement; nature of physical laws;Physics, technology and society. Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. Length, mass and time measurements; accuracy and precision of measuring instruments; errors in measurement, significant figures.

Dimensions of physical quantities, dimensional analysis and its applications.

Unit II : Kinematics

Frame of reference. Motion in a straight line: Position-time graph, speed and velocity.

Uniform and non-uniform motion, average speed and instantaneous velocity.

Uniformly accelerated motion, velocity-time, position-time graphs, relations for uniformly accelerated motion (graphical treatment).

Elementary concepts of differentiation and integration for describing motion, Scalar and vector quantities: Position and displacement vectors, general vectors and notation, equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors. Relative velocity.

Unit vector: Resolution of a vector in a plane - rectangular components. Scalar and vector product of vectors. Motion in a plane. Cases of uniform velocity and uniform acceleration-projectile motion. Uniform circular motion.

Unit III : Laws of Motion

Intuitive concept of force. Inertia. Newton's first law of motion; momentum and Newton's second law of motion; impulse: Newton's third law of motion. Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces. Static and kinetic friction, laws of friction. rolling friction, lubrication.

Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on level circular road. vehicle on banked road).

Unit -IV: Work, Energy and Power

Work done by a constant force and a variable force; kinetic energy, work-energy theorem, power.

Notion of potential energy, potential energy of a spring, conservative forces: conservation of mechanical energy (kinetic and potential energies); non- Conservative forces, motion in a vertical circle; elastic and inelastic collisions in one and two dimensions.

Unit-V: Motion of System of Particles and Rigid Body

Centre of mass of a two-particle system, momentum conversation and centre of mass motion. Centre of mass of a rigid body; centre of mass of uniform rod.

Moment of a force, torque, angular momentum, conservation of angular momentum with some examples.

Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions; moment of inertia, radius of gyration.

Values of moments of inertia for simple geometrical objects (no derivation). Statement of parallel and perpendicular axes theorems and their applications.

Unit-VI: Gravitation

Keplar's laws of planetary motion. The universal law of gravitation.

Acceleration due to gravity and its variation with altitude and depth.

Gravitational potential energy; gravitational potential. Escape velocity, Orbital velocity of a satellite. Geo-stationary satellites.

Unit-VII: Properties of Bulk Matter

Elastic behaviour, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear, modulus of rigidity, poisson’s-ratio; elastic energy

Pressure due to a fluid column Pascal's law and its applications (hydraulic lift and hydraulic brakes). Effect of gravity on fluid pressure.

Viscosity, Stokes' law, terminal velocity, Reynold's number, streamline and turbulent flow. Critical velócity. Bernoulli's theorem and its applications.

Surface energy and surface tension, angle of contact, excess of pressure, application of surface tension ideas to drops, bubbles and capillary rise.

Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion, specific heat Capacity: Cp, Cv-colorimetry; change of state-latent heat.

Heat transfer-conduction, convection radiation and thermal Conductivity, Qualitative idea of Blackbody radiation, Newton's law of cooling and Stefan's law, Wein's displacement law, Green House effect.

Unit-VIII: Thermodynamics

Thermal equilibrium and definition of temperature (zeroth law of thermodynamics). Heat, work and intemal energy. First law of thermodynamics. Isothermal and adiabatic processes.

Second law of thermodynamics: reversible and irreversible processes.

Heat engines and refrigerators.

Unit-IX: Behaviour of Perfect Gas and Kinetic Theory

Equation of state of a perfect gas, work done on compressing a gas.

Kinetic theory of gases. Assumptions, concept of pressure. Kinetic energy and temperature;

rms, speed of gas molecules; degrees of freedom, law of equipartition of energy (statement only) and application to specific heat capacities of gases: concept of mean free path, Avogadro's number.

Unit-X: Oscillations and Waves

Periodic motion - period, frequency, displacement as a function of time.

Periodic functions.

Simple harmonic motion (S.H.M) and its equation; þhase; oscillations of a spring-restoring force and force constant; energy in S.H.M.-kinetic and potential energies: simple pendulum-derivation of expression for its time period: free, forced and damped oscillations (qualitative ideas only), resonance.

Wave motion. Longitudinal and transverse waves, speed of wave motion. Displacement-relation for a progressive wave. Principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats, Doppler effect.

STRUCTURE OF PAPER (PRACTICAL)

Time : 3 hrs. **Total : 20 Marks**

Two experiment	10
Record of Activities	2
Viva on Activities	3
Record of Experiments	2
Viva of Experiments	3
Total	**20**

PRACTICAL SYLLABUS

Experiments

1. Use of Vernier Callipers
   (i) To measure diameter & volume and volume of a small spherical/cylindrical body.
   (ii) To measure the dimenscons of given rectangular body of known mass and hence to determine its density.
   (iii) To measure internal diameter and depth of a given beaker/ calorimeter and hence find its volume.
2. Use of screw gauge
   (i) to measure diameter & volume of a given wire,
   (ii) to measure thickness of a given sheet
   (ii) to measure volume of an irregular lamina
3. To determine radius of curvature of a given spherical surface by a spherometer.
4. To find the weight of a given body using parallelogram law of vectors addition.
5. Using a simple pendulum, plot L-T and L-T^2 graphs. Hence find the effective length of second's pendulum using appropriate graph.
6. To study the relationship between force of limiting friction and normal reaction and to find co-efficient of friction between a block and a horizontal surface.
7. To find the downward force, along an inclined plane, acting on a roller due to gravitational pull of the earth and study its relationship with the angle of inclination (θ) by plotting graph between force and $\sin\theta$.
8. To determine the mass of two different objects using a beam balance.

SECTION-B

1. To determine young's modulus of a given wire by using searle's apparatus.
2. To find out the spring constant of a helical spring from its load-extension graph.
3. To find force constant and effective mass of a helical spring by plotting T^2 -m graph using method of oscillation.
4. To study the variation in volume (V) with pressure (P) for a sample of air at constant temp. by plotting graphs between P&V and between P & 1/V.
5. To determine the surface tension of water by capillary rise method.
6. To determine the coefficient of viscosity of a given liquid by measuring the terminal volume of spherical body.
7. To study the relationship between the temperature of a hot body and time by plotting a cooling curve.
8. To determine the specific heat capacity of a given (i) solid (ii) liquid by method of mixtures.
9. (i) To study the relation between frequency and length of a given wire under constant tension using sonometer.
   {ii) To study the relation between the length of a given wire and tension for constant frequency using sonometer.
10. To find the speed of sound in air at room temperafure using a resonance tube by two-resonançe positions.

Activities

1. To make a paper scale of given least count, e.g. 0.2cm, 0.5 cm.
2. To determine mass of a given body using a metre scale by principle of moments.
3. To plot a graph for a given set of data, with proper choice of scales and error bars.
4. To measure the force of limiting friction for rolling of a roller on a horizontal plane.
5. To study the variation in range of a jet of water with angle of projection.
6. To study the conservation of energy of a ball rolling down on inclined plane (using a double inclined plane).
7. To study dissipation of energy of a simple pendulum by plotting a graph between square of amplitude and time.
8. To observe change of state and plot a cooling curve for molten wax.
9. To observe and explain the effect of heating on a bi-metallic strip.
10. To nóte the change in level of liquid in a container on heating and interpret the observations.
11. To study the effect of detergent on surface tension of water by observing capillary rise.
12. To stúdy the factors affecting the rate of loss of heat of a liquid.
13. To study the effect of load on depression of a suitably clamped metre scale loaded.
    (i) at its end (ii) in the middle.
14. To determine the radius of gyration about the centre off mass of a metre scale used as a bar pendulum.
15. To demonstrate uniform motion in a straight line of a body in glycerine (any viscous liquid) in a glass plastic tube in a burette.
16. To show that a centripetal force is necessary for moving a body with a uniform speed along a circle and that magnitude of the force increases with angular speed using glass tube & slotted weights.
17. To show interconversion of potential & kinetic energy using Maxwell's wheel.
18. To show conservation of momentum using bipilar pendulums.
19. To show that moment of inertia of a rod changes with the change of positions of a pair of equal weights attached to the rod.
20. To show the rise of water in capillary tubes of different diameters with the help of glass sheet.

CLASS - XI

40. CHEMISTRY

Time: 3 Hrs **Theory: 70 Marks**
Practical: 20 Marks
C.C.E.: 10 Marks
Total: 100 Marks

STRUCTURE OF QUESTION PAPER (THEORY)

1 There will be one theory paper comprising of 26 questions. All questions are compulsory.

2 Question no. 1 to 8 will be of one mark each. All questions are compulsory.

3 Question no. 9 to 16 will be of two marks each. All questions are compulsory.

4 Question no.17 to 23 will be of four marks each. There will be internal choice in two questions.

5 Question no.24 to 26 will be of six marks each. There will be internal choice in them.

6 Distribution of marks over different dimensions of the paper will be as follows.

LEARNING OUTCOMES	**PERCENTAGE OF MARKS**
KNOWLEDGE	36%
UNDERSTANDING	44%
APPLICATION	20%
Total	100%

7 There will be no question of the objective type such as Yes/No, tick/cross, fill in the blanks, multiple choice, true/false etc.

8 Use of un-programmable calculator is allowed. The log tables can be used.

9 Total weightage of numerical will be 20%

UNITWISE DISTRIBUTION OF MARKS

SR.NO	**UNIT**	**TOTAL MARK**
1	Some Basic Concept of Chemistry	05
2	Structure of Atom	06
3	Classification of Elements and Periodicity in Properties	05
4	Chemical Bonding and Molecular Structure	06
5	Hydrogen	05
6	S-Block Elements (Alkali and Alkaline Earth Metals)	05
7	Organic Chemistry- Some Basic Principles and Techniques	05
8	Status of Matter: Gases and Liquids	05
9	Thermodynamics	05
10	Equilibrium	06
11	Redox Reaction	04
12	Some p-Block Elements, General introduction to p-Block Elements	05
13	Hydrocarbons	06
14	Environmental Chemistry	02
	TOTAL QUESTIONS &TOTAL MARKS	**T.Q=26 T.M=70**

Total Question in paper =26 including 5 choice questions

SCHEMATIC DISTRIBUTION OF MARKS

Sr.No	UNIT	1 MARK	2 MARK	4 MARK	6 MARK	TOTAL MARK
1	Some Basic Concept of Chemistry	1	-	1	-	05
2	Structure of Atom	-	-	-	1	06
3	Classification of Elements and Periodicity in Properties	1	2	-	-	05
4	Chemical Bonding and Molecular Structure	-	-	-	1	06
5	Hydrogen	1	-	1	-	05
6	S-Block Elements (Alkali and Alkaline Earth Metals)	1	-	1	-	05
7	Organic Chemistry- Some Basic Principles and Techniques	1	-	1	-	05
8	Status of Matter: Gases and Liquids	1	-	1	-	05
9	Thermodynamics	1	-	1	-	05
10	Equilibrium	-	1	1	-	06
11	Redox Reaction	-	2	-	-	04
12	Some p-Block Elements, General introduction to p-Block Elements	1	2	-	-	05
13	Hydrocarbons				1	06
14	Environmental Chemistry	-	1	-	-	02
	TOTAL QUESTIONS &TOTAL MARKS	T.Q=8 T.M=8	T.Q=8 TM=16	T.Q=7 T.M=28	T.Q=3 T.M=18	T.Q=26 T.M=70

Total Question in paper =26 including 5 choice questions

SYLLABUS (THEORY)

Unit-I Some Basic Concepts of Chemistry

General introduction: Importance and scope of chemistry. Historical approach to particulate nature of matter, laws of chemical combination. Dalton's atomic theory: concept of elements, atoms and molecules. Atomic and molecular masses. Mole concept and molar mass: percentage composition, empirical and molecular formula; chemical reactions, stoichiometry and calculations based on stoichiometry.

Unit-II Structure of Atom

Discovery of electron, proton and neutron; atomic number, isotopes and isobars. Thomson's model and its limitations, Rutherford's model and its limitations. Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, De Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p, and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli exclusion principle and Hund's rule, electronic configuration of atoms, stability of half filled and completely filled orbitals.

Unit-III Classification of Elements and Periodicity in Properties

Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements -atomic radii, ionic radii, Inert gas radii. lonization enthalpy, electron gain enthalpy, electronegativity, valence, Nomenclature of elements with atomic number greater than 100.

Unit-IV Chemical Bonding and Molecular Structure

Valence electrons, ionic bond, bond parameters, covalent bond. Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory. resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization involving s, p and d orbitals and shapes of some simple molecules, Molecular orbital theory of homonuclear diatomic molecules(qualitative idea only), hydrogen bond.

Unit-V States of Matter: Gases and Liquids

Three states of matter. Intermolecular interactions, types of bonding, melting and boiling points. Role of gas laws in elucidating the concept of the molecule, Boyle's law. Charles' law, Gay Lussac's law, Avogadro's law. Ideal behaviour, empirical derivation of gas equation, Avogadro's number. Ideal gas equation. Derivation from ideal behaviour, liquifaction of gases, critical temperature, kinetic energy and molecular speeds (elementary idea) derivation from ideal behaviour, liquification of gasses, critical temperature

Liquid State - Vapour pressure, viscosity and surface tension (qualitative idea only, no mathematical derivations).

Unit-VI Thermodynamics

Concepts of System, types of systems, surroundings. Work, heat, energy, extensive and intensive properties, state functions.

First law of thermodynamics - internal energy and enthalpy heat capacity and specific heat measurement of ΔU and ΔH, Hess's law of constant heat summation, enthalpy of: bond dissociation, combustion, formation, atomization, sublimation. Phase transition, ionization, solution and dilution.

Introduction of entropy as a state function, Gibbs energy change for spontaneous and non-spontaneous processes, criteria for equilibrium.

Second law of thermodynamics, third law of thermodynamics (Brief introduction).

Unit-VII Equilibrium

Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium - Le Chatelier's principle; ionic equilibrium ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of polybasic acids, acid strength, concept of pH, Henderson Equation. Hydrolysis of salts (elementary idea). Buffer solutions, solubility product, common ion effect (with illustrative examples).

Unit-VIII Redox Reactions

Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions in terms of loss and gain of electrons and change in oxidation number, application of redox reaction.

Unit-IX Hydrogen

Position of hydrogen in periodic table, occurrence, isotopes, preparation, properties and uses of hydrogen; hydrides - ionic, covalent and interstitial; physical and chemical properties of water, heavy water; hydrogen peroxide-preparation, reactions, structure and use; hydrogen as a fuel.

Unit-X S Block Elements (Alkali and Alkaline earth metals)

Group 1 and Group 2 elements

General introduction, electronic configuration, occurrence, anomalous properties of the first element of each group, diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii), trends in chemical reactivity with oxygen, water, hydrogen and halogens; uses.

Preparation and properties of some important compounds :

Sodium carbonate, sodium chloride sodium hydroxide and sodium hydrogen carbonate, biological importance of sodium and potassium.

CaO, $CaCO_3$ and industrial use of lime and limestone, biological importance of Mg and Ca.

Unit-XI Some p-Block Elements, General introduction to p-Block Elements

Group 13 elements: General introduction, electronic configurations, occurrence. Variation of properties, oxidation states, trends in chemical reactivity, anomalous properties of first element of the group; Boron- physical and chemical properties, some important compounds: borax, boric acid, boron hydrides. Aluminium: reactions with acids and alkalies and uses.

Group 14 elements : General introduction, electronic configurations, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous behaviour of first element, Carbon - catenation, allotropic forms, physical and chemical properties; uses of some important compounds: oxides.

Important compounds of silicon and a few uses: silicon tetrachloride silicones, silicates and Zeolites, their uses.

Unit-XII Organic Chemistry Some Basic Principles and Techniques

General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond:- inductive effect, electromeric effect, resonance and hyper conjugation.

Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carboanion; electrophiles and nucleophiles, types of organic reactions

Unit-XIII Hydrocarbons

Classification of hydrocarbons

Aliphatic Hydrocarbon

Alkanes Nomenclature isomerism, conformations (ethane only), physical properties, chemical reactions including, free radical mechanism of halogenation, combustion and pyrolysis.

Alkenes - Nomenclature, structure of double bond (ethene) geometrical isomerism, physical properties, methods of preparation; chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition.

Alkynes – Nomenclature, structure of triple bond (ethyne), physical properties.

Methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water.

Aromatic hydrocarbons: Introduction, IUPAC nomenclature: Benzene; resonance aromaticity: chemical properties: mechanism of electrophilic substitution. – nitration sulphonation, halogenation, Friedel Craft's alkylation and acylation: directive influence of functional group in mono-substituted benzene; carcinogenicity and toxicity.

Unit-XIV Environmental Chemistry

Environmental pollution - air, water and soil pollution, chemical reactions in atmosphere, smog, major atmospheric pollutants; acid rain, ozone and its reactions, effects of depletion of ozone layer; greenhouse effect and global warming - pollution due to industrial wastes: green chemistry as an alternative tool for reducing pollution, strategy for control of environmental pollution.

STRUCTURE OF QUESTION PAPER (PRACTICAL)

Time: 3.00 hrs.		**Marks: 20**
1.	Volumetric Analysis	06
2.	Salt Analysis	05
3.	Content based experiment	05
4.	Class record and Viva	04
	Total Marks	20

PRACTICAL SYLLABUS

Micro Chemical Methods are available for several of the practical experiments where ever possible such techniques should be used.

A. Basic Laboratory Techniques

- **a.** Cutting glass tube and glass rod
- **b.** Bending a glass tube
- **c.** Drawing out a glass jet
- **d.** Boring a cork

B. Experiments related to pH change

- **a.** Anyone of the following experiments:
  - Determination of pH of some solutions obtained from fruit juices, solution of known and varied concentrations of acids, bases and salts using pH paper or universal indicator.
  - Comparing the pH of solutions of strong and weak acid of same concentration.
  - Study the pH change in the titration of a strong base using Universal indicator.
- **b.** Study of pH change by common-ion effect in case of weak acids and weak bases.

C. Qualitative Analysis

Determination of one anion and one cation in a given salt

Cations- Pb^{2+}, Cu^{+2}, As^{3+}, $A1^{3+}$, Fe^{3+}, Mn^{2+}, Ni^{2+}, Zn^{2+}, Co^{2+} Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4^+

Anions- $CO_3^{2-}, S^{2-}, SO_3^{2-}, SO_4^{2-}, NO_2^-, NO_3^-, Cl^-, Br^-, I^-, PO_4^{3-}, C_2O_4^{2-}, CH_3COO^-$

(Note: insoluble salts excluded)

D. Detection of nitrogen, sulphur, chlorine in organic compounds.

PROJECTS

- Investigation of foaming capacity of different washing soaps and the effect of addition of Sodium carbonate on them.
- Study of the acidity of different samples of the tea leaves.
- Determination of the rate of evaporation of different liquids.
- Study of the effect of acids and bases on the tensile strength of fibers.
- Analysis of fruit and vegetable juices for their acidity.

Note: Any other investigatory project, which involves about 10 period of work can be chosen with the approval of the teacher.

A. Characterization and purification of chemical substances

1. Determination of melting point of an organic compound
2. Determination of boiling point of an organic compound
3. Crystallization of impure sample of anyone of the following: Alum, copper sulphate, Benzoic acid.

B. Chemical Equilibrium

One of the following experiments:

a) Study the shift in equilibrium between ferric ions and thiocyanate ions by increasing/decreasing the concentration of either ions.

b) Study the shift in equilibrium between $[Co(H_2O)_6]^{2+}$ and chloride ions by changing he concentration of either of the ions.

C. Quantitative Estimation

- Using a chemical balance.
- Preparation of standard solution of oxalic acid.
- Determination of strength of a given solution of sodium hydroxide by titrating it against standard solution of oxalic acid.
- Preparation of standard solution of sodium carbonate.
- Determination of strength of a given solution of hydrochloric acid by titrating it against standard sodium carbonate solution.

PROJECT

Scientific Investigations involving A few suggested Projects

- Checking the bacterial contamination in drinking water by testing sulphide ion. Study of the methods of p.
- Testing the hardness, presence of iron floride, chloride etc. depending upon the regional variation in drinking water and the study of causes of presence of these ions above permissible limit (if any).
- Study the method of purification of water.

CLASS - XI

41. BIOLOGY

Time: 3 Hrs

Theory: 70 Marks
Practical: 20 Marks
CCE: 10 Marks
Total: 100 Marks

STRUCTURE OF QUESTION PAPER (THEORY)

1. There will be one theory paper comprising of 26 questions all.
2. Question no. 1 to 8 will be of one mark each. All are compulsory.
3. Question no. 9 to 16 will be of two marks each. All are compulsory.
4. Question no.17 to 23 will be of four (4) marks each. Question no.17 to 21 will be compulsory (1 question from each unit) There will be 100% Internal choice in question no 22 and 23. Question no. 22 will be from unit IV and Question 23 will be from unit V.
5. Question no.24 to 26 will be of six (6) marks each. There will be 100% internal choices.
6. Distribution of marks over different dimensions of the paper will be as follows.

LEARNING OUTCOMES	MARKS	PERCENTAGE OF MARKS
KNOWLEDGE	25	36%
UNDERSTANDING	31	44%
APPLICATION	14	20%
Total	**70**	**100%**

7. Out of eight one mark questions, 4 questions can be of the objective type such as Yes/No, tick/cross, fill in the blanks, multiple choice, true/false etc.Other four should be of statement type.

UNITWISE DISTRIBUTION OF MARKS

Unit	Title	Marks
I	Diversity in living World	07
II	Structural Organization in animals & plants	11
III	Cell structure and functions	16
IV	Plant physiology	18
V	Human anatomy and physiology	18
Total Marks		**70**

SCHEMATIC DISTRIBUTION OF MARKS

Unit	1 mark questions	2 mark questions	4 mark questions	6 mark questions	Total marks
Unit-I	1	1	1	-	**07**
Unit-II	1	3	1	-	**11**
Unit-III	2	2	1	1	**16**
Unit-IV	2	1	1+1or1	1	**18**
Unit-V	2	1	1+1or1	1	**18**
Total questions	**8**	**8**	**7**	**3**	**26**
Total Marks	**8**	**16**	**28**	**18**	**70**

INSTRUCTIONS FOR PAPER SETTER

Note:

1. There will be one theory paper consisting of total 26 questions.
2. Question no.1 to 8 will be of 1 mark each. All questions are compulsory.
3. Question no.9 to 16 will be of 2 marks each. All questions are compulsory.

4. Question no. 17 to 23 will be of 4 marks each. Questions 17 to 21 are compulsory (should be one from each unit) and 22 and 23 questions will have 100% internal choice and will be from IV and V unit.
5. Question no 24 to 26 will be of 6 mark each and will have 100% internal choice.
6. Questions in the paper can be asked only from mentioned PSEB syllabus. Questions from any topic which is not mentioned in the syllabus will be considered as out of syllabus question.
7. All 3 sets must be of equal standard and difficulty level questions.
8. At the end of each question, paper setter must write detailed distribution of marks of each sub-question.
9. Vague, many possible answer questions, confusing answer question etc type of question will not be asked in the paper. One mark questions, answer should be of one word or one line only.
10. Language used should be clearly understood & specific.
11. Time and length limit of paper should be kept in mind.

SYLLABUS (THEORY)

1. Diversity in Living World

What is living?; Biodiversity; Need for classification; Three domain of life; Taxonomy & Systematic; Concept of species and taxonomical hierarchy; Binomial nomenclature; Tools for study of Taxonomy-Museums, Zoos, Herbaria, Botanical gardens.

Five Kingdom classification; Salient features and classification of Monera; Protista and Fungi into major groups; Lichens; Viruses and Viroids.

Salient features and classification of plants into major groups-Algae, Bryophytes, Pteridophytes, Gymnosperm and Angiosperm (three to five salient and distinguishing features and at least two examples of each category); Angiosperms-classification up to class, characteristics features and examples.

Salient features and classification of Animals-non chordate up to phyla level and chordate up to classes level (three to five salient features and at least two examples)

2. Structural Organization in Animals and Plants

Morphology and modifications; Tissues; Anatomy and functions of different parts of flowering plants: Root, steam, leaf, inflorescence-cymose and racemose, flower, fruit and seed (To be dealt along with the relevant practical of the practical syllabus).

Animal tissues; Morphology, anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of an insect (cockroach). (Brief account only)

3. Cell Structure and Function

Cell theory and cell as the basic unit of life; Structure of prokaryotic and eukaryotic cell; Plant cell and animal cell; Cell envelope, cell membrane, cell wall; Cell organelles-structure and function; Endomembrane system-endoplasmic reticulum, Golgi bodies, lysosomes, vacuoles; mitochondria, ribosomes, plastids, microbodies; Cytoskeleton, cilia, flagella, centrioles (ultra structure and function); Nucleus-nuclear membrane, chromatin, nucleolus.

Chemical constituents of living cells: Biomolecules- structure and function of proteins, carbodydrates, lipid, nucleic acid; Enzymes-types, properties, enzyme action.

Cell division: Cell cycle, mitosis, meiosis and their significance.

4. Plant Physiology

Transport in plants: Movement of water, gases and nutrients; Cell to cell transport- Diffusion, facilitated diffusion, active transport; Plant- water relations- Imbibition, water potential, osmosis, plasmolysis; Long distance transport of water- Absorption, apoplast, symplast, transpiration pull, rootpressure and guttation; Transpiration-Opening and Closing of stomata; Uptake and translocation of mineral nuterients- Transport of food; Phloem transport, Mass flow hypothesis; Diffusion of gases (brief mention).

Mineral nutrition: Essential minerals, macro and micronutrients and their role; Deficiency symptoms; Mineral toxicity; Elementary idea of Hydroponics as a method to study mineral nutrition; Nitrogen metabolism-Nitrogen cycle, biological nitrogen fixation.

Photosynthesis: Photosynthesis as a means of Autotrophic nutrition; Where does photosynthesis take place; How many pigments are involved in Photosynthesis (Elementary idea); Photochemical and biosynthetic phases of photosynthesis; Cyclic and non cyclic photophosphorylation; Chemiosmotic hypothesis; Photorespiration; C_3 and C_4 pathways; Factors affecting photosynthesis.

Respiration: Exchange of gases; Cellular respiration- glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); Energy relations- Number of ATP molecules generated; Amphibolic pathways; Respiratory quotient.

Plant growth and development: Seed germination; Phases of plant growth and plant growth rate; - Conditions of growth; Differentiation, dedifferentiation and redifferentiation, Sequence of developmental process in a plant cell; Growth regulators- auxin, gibberellin, cytokinin, ethylene, ABA; Seed dormancy; Vernalisation; Photoperiodism.

5. Human Physiology

Digestion and Absorption: Alimentary canal and Digestive glands; Role of digestive enzymes and gastrointestinal hormones; Peristalsis, Digestion, absorption and assimilation of proteins, carbohydrates and fats, Calorific value of proteins, carbohydrates and fats (for box item not to be evaluated); Egestion; Nutritional and digestive disorders - PEM, indigestion, constipation, vomiting, jaundice, diarrhea.

Breathing and Respiration: Respiratory organs in animals (Recall only); Respiratory system in humans; Mechanism of Breathing and its regulation in humans - Exchange of gases, transport of gases and regulation of respiration, Respiratory volumes; Disorders related to respiration - Asthma, Emphysema, Occupational Respiratory disorders.

Body fluids and Circulation: Composition of blood, Blood groups, Coagulation of blood; Composition of Lymph and its function; Human circulatory system - Structure of human heart and blood vessels; Cardiac cycle, Cardiac output, ECG; Double

circulation; Regulation of cardiac activity; Disorders of circulatory system - Hypertension, Coronary artery disease, Angina pectoris, heart failure.

Excretory products and their elimination: Modes of excretion - Ammonotelism, ureotelism; Uricotelism; Human excretory system - structure and function; Urine formation, Osmoregulation; Regulation of kidney-function - Renin-angiotensin, Atrial Natriuretic Factor, ADH and Diabetes insipidus; Role of other organs in excretion; Disorders - Uraemia, Renal failure, Renal calculi, Nephritis; Dialysis and artificial kidney.

Locomotion and Movement: Types of movement - ciliary, flagellar, muscular; Skeletal muscle - contractile proteins and muscle contraction; Skeletal system and its functions. (To be dealt with the relevant practical of Practical Syllabus); Joints; Disorders of muscular and skeletal system – Myasthenia gravis, Tetany, Muscular dystrophy, Arthritis, Osteoporosis, Gout.

Neural control and coordination: Neuron and nerves; Nervous system in humans - central nervous system, Peripheral nervous system and visceral nervous system; Generation and conduction of nerve impulse; Reflex action; Sense organs; Sensory Perception; Elementary structure and function of eye and ear.

Chemical coordination and regulation: Endocrine glands and hormones; Human endocrine system - Hypothalamus, Pituitary, Pineal, Thyroid, Parathyroid, Adrenal, Pancreas, Gonads; Mechanism of hormone action (Elementary idea); Role of hormones as messengers and regulators, Hypo- and hyperactivity and related disorders. (Common disorders eg. Dwarfism, Acromegaly, Cretinism, goiter, exopthalmic goiter, diabetes, Addison's disease).

Imp: Diseases related to all the human physiology systems to be taught in brief.

STRUCTURE OF QUESTION PAPER (PRACTICAL)

Time: 3.00 hrs. **Total 20 : Marks**

1.	Experiment and Spotting	12
2.	Record of one investigatory and Viva based on the project	4
3.	Class record and Viva based on experiments	4
	Total	20

SYLLABUS (PRACTICALS)

A. List of Experiments

1. Study and describe three locally available common flowering plants from each of the following families (Solanaceae, Fabaceae and Liliaceae) including dissection and display of floral whorls and anther and ovary to show number of chambers. Types of root (Tap and Adventitious); Stem (Herbaceous and woody); Leaf (arrangement, shape, venation, simple and compound).
2. Preparation and study of T.S. of dicot and monocot roots and stems (primary).
3. Study parts of a compound microscope.

4. Study of the specimens and identification with reasons-Bacteria,Oscillatoria, Spirogyra, Rhizopus, mushroom, Yeast, liverwort, moss, fern, Pine, one monocotyledonous plant and one dicotyledonous plant and one lichen.
5. Study of specimens and identification with reasons-Amoeba, Hydra, Liverfluke, Ascaris, leech, earthworm prawn, silkworm, honeybee, snail, starfish, shark, Rohu, frog, lizard, pigeon and rabbit.
6. Study of tissues, and diversity in shapes and sizes of plant and animal cells (e.g palisade cells, guard cells, parenchyma, collenyma, sclerenchyma, Xylem, Phloem, Squamous epithelium, muscle fibers and mammalian blood smear) through temporary/permanent slides.
7. Study of different modifications in root, stem and leaves.
8. Study and identification of different types of inflorescence.
9. Study of osmosis by potato osmometer.
10. Study of plasmolysis in epidermal peels (e.g. Rhoeo leaves).
11. Study of distribution of stomata in the upper and lower surface of leaves.
12. Comparative study of the rates of transpiration in the upper and lower surface of leaves.
13. Test for the presence of sugar, starch, protein and fats. To detect them in suitable plant and animal materials.
14. Separation of plant pigments through paper chromatography.
15. To study the rate of respiration in flower buds/leaf tissue and germinating seeds.
16. To test the presence of urea in urine.
17. To detect the presence of sugar in urine/blood sample
18. To detect the presence of albumin in urine.
19. To detect the presence of bile salts in urine.
20. Study of imbibition in seeds/raisins.
21. Observation and comments on the experimental set up for showing.
    a. Anaerobic respiration
    b. Phototropism
    c. Apical bud removal
    d. Suction due to transpiration
22. Study of human skeleton and different types of joints.
23. Study of external morphology of earthworm, cockroach and frog through models.
24. Study of mitosis in onion root tip cells and animals cells (grasshopper) from permanent slildes.