

CLASS-XII
1. GENERAL ENGLISH

Time: 3hrs

Theory: 65 Marks

CCE: 10 Marks

Total: 75 Marks

SYLLABUS AND THE STRUCTURE OF QUESTION PAPER

Part-I (Objective type questions)

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, including a question on vocabulary (meanings of 2 out of 3 given words in simple English). 2+1+1+1+1 = 6
3. Comprehension question on a given stanza from poetry (4 questions including a question on name of the poet/poem, Rhyme scheme/Simile/Metaphor/Personification/ Alliteration/ Imagery etc on selected stanza).(1 out of two given stanzas to be attempted) 4 marks

Part-III (Writing)

14marks

4. Précis writing (passage of about 150 words) 5 marks
5. Letter writing (only official/ business & to the Editors/ Applications for jobs) (one out of two)(Letter or Application) 6 marks
6. Explaining Newspaper Headlines (15-20 words)/ E-mail writing 3 marks

Part-IV (Grammar)

8 marks

7. Grammar items:
- a. Determiners
 - b. Use of Non-finites (Infinitives, Gerunds, Participles)
 - c. Transformation of Sentences
 - d. Voice
 - e. Narration 2+2+2+1+1=8 Marks

Part-V (Literature)

25 marks

8. Central idea (1 out of 2.) 3 marks
9. Three(out of four) short answer questions of about 40 to 50 words from intensive study. 3×2=6
10. Two (out of three) short answer questions of about 40 to 50 words from extensive study. 2×2=4
11. Long answer questions on theme, incident, content, character etc. from intensive study (100 to 120 words) (with internal choice). 6 marks
12. 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. Hassan's Attendance Problem | Sudha Murthy |
| 2. The March King | Katherine Little Bakeless |
| 3. Thinking Out of the Box: Lateral Thinking | (Adopted from the article from Internet) |
| 4. Robots and People | Isaac Asimov |
| 5. On Giving Advice | Joseph Addison |
| 6. On Saying 'Please' | A. G. Gardiner |
| 7. The Story of My Life | Helen Keller |
| 8. Two Gentlemen of Verona | A. J. Cronin |
| 9. In Celebration of Being Alive | Dr. Christian Barnard |
| 10. Gadari Babas in Kalapani Jail | Dr. Harish Puri |

Section B (Poetry)

- | | |
|----------------------------------|---------------------------|
| 1. Prayer of the Woods | Anonymous |
| 2. On Friendship | Khalil Gibran |
| 3. The Echoing Green | William Blake |
| 4. Once upon a Time | Gabriel Okara |
| 5. Cheerfulness Taught by Resons | Elizabeth Barret Browning |
| 6. Father Returning Home | Dilip Chitre |
| 7. The Road Not Taken | Robert Frost |
| 8. On His Blindness | John Milton |

Section C (Lessons for Extensive study)

- | | |
|-------------------------------|----------------|
| 1. The School for Sympathy | E. V. Lucas |
| 2. A Chamelon | Anton Chekhov |
| 3. Bholi | K. A. Abbas |
| 4. The Gold Frame | R. K. Luxman |
| 5. The Barber's Trade Union | Mulk Raj Anand |
| 6. The Bull beneath the Earth | K. S. Virk |

Section D (Grammar and Composition)

Grammar

1. Determiners
2. Use of Non-finites (Infinitives, Gerunds, Participles)
3. Transformation of Sentences
4. Voice
5. Narration

Composition

1. Précis writing
2. Letter writing (Official/Business/To Editors)
3. Applications for Jobs
4. Explaining Newspaper Headlines
5. E-Mail writing

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

1. (General English XII) A Rainbow of English

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

Questions can be set from the entire prescribed syllabus. It is not mandatory that all the questions asked by the Paper setter are from the back exercises only.

CLASS-XII
ਪੰਜਾਬੀ-ਲਾਜ਼ਮੀ
ਪਾਠ-ਕ੍ਰਮ ਅਤੇ ਅੰਕ-ਵੰਡ

ਸਮਾਂ: 3 ਘੰਟੇ

ਲਿਖਤੀ ਪੇਪਰ: 65 ਅੰਕ
ਆਂਤਰਿਕ ਮੁਲਾਂਕਣ: 10 ਅੰਕ
ਕੁੱਲ: 75 ਅੰਕ

ਲੜੀ ਨੰ:	ਪਾਠ-ਕ੍ਰਮ	ਅੰਕ
1.	ਪੰਜਾਬੀ ਸੱਭਿਆਚਾਰ ਦੀ ਜਾਣ-ਪਛਾਣ	26
2.	ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਲਿਖਣ ਦਾ ਹੁਨਰ:- ਕਾਰ-ਵਿਹਾਰ ਦੇ ਪੱਤਰ, ਸੰਖੇਪ-ਰਚਨਾ	10
3.	ਵਿਆਕਰਨ :-ਅਖਾਉਤਾਂ ਕੋਸ਼ -ਤਰਤੀਬ ਅਤੇ ਵਾਕ-ਰੂਪਾਂਤਰਨ	16
4.	ਪੰਜਾਬੀ-ਸਾਹਿਤ :- ਕਵਿਤਾਵਾਂ ਅਤੇ ਕਹਾਣੀਆਂ	13
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 ਆਧਾਰ 'ਤੇ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਦਸ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ 1 ਅੰਕ ਦਾ ਹੋਵੇਗਾ।

ਅੰਕਾਂ ਦੀ ਵੰਡ ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਹੋਵੇਗੀ:

- (ੳ) **ਪੰਜਾਬੀ ਸੱਭਿਆਚਾਰ ਦੀ ਜਾਣ ਪਛਾਣ:-** ਲੇਖਕ ਦੀ ਰਚਨਾ/ ਰਚਨਾ ਦਾ ਲੇਖਕ, ਗਲਤ/ਠੀਕ, ਬਹੁ-ਚੋਣ, ਖਾਲੀ ਥਾਂਵਾਂ, ਇੱਕ ਦੋ ਸ਼ਬਦਾਂ ਦੇ ਉੱਤਰ ਵਾਲੇ 6 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। 6 ਅੰਕ
- (ਅ) **ਕਵਿਤਾਵਾਂ:-** (ਕਵਿਤਾ ਦਾ ਕਵੀ/ ਕਵੀ ਦੀ ਰਚਨਾ) 1 ਅੰਕ
- (ੲ) **ਕਹਾਣੀਆਂ:-** (ਪਾਤਰਾਂ ਬਾਰੇ) 1 ਅੰਕ
- (ਸ) **ਅਖਾਉਤਾਂ :-** (2 ਅਧੂਰੀਆਂ ਅਖਾਉਤਾਂ ਪੂਰੀਆਂ ਕਰਨੀਆਂ) 1+ 1 =2 ਅੰਕ

$6+ 1 + 1+ 2 = 10$ ਅੰਕ

- ਪ੍ਰਸ਼ਨ ਨੰ: 2** ਲਾਜ਼ਮੀ ਪੰਜਾਬੀ -12, ਸੱਭਿਆਚਾਰ ਭਾਗ ਦੇ ਪਾਠਾਂ ਦੇ ਅਭਿਆਸਾਂ ਵਿੱਚੋਂ ਅੱਠ ਪ੍ਰਸ਼ਨ ਪੁੱਛ ਕੇ ਕਿਸੇ ਪੰਜ ਦਾ ਉੱਤਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। $4 \times 5 = 20$ ਅੰਕ
- ਪ੍ਰਸ਼ਨ ਨੰ: 3** ਕਾਰ-ਵਿਹਾਰ ਦੇ ਪੱਤਰ ਲਈ ਦੋ ਵਿਸ਼ੇ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਬਾਰੇ ਪੱਤਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। $2+ 3+1=6$ ਅੰਕ
- ਪ੍ਰਸ਼ਨ ਨੰ: 4** ਸੰਖੇਪ-ਰਚਨਾ ਕਰਨ ਲਈ ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚੋਂ ਇੱਕ ਪੈਰਾ ਦਿੱਤਾ ਜਾਵੇਗਾ। ਲਗ-ਪਗ ਇੱਕ ਤਿਹਾਈ ਸ਼ਬਦਾਂ ਵਿੱਚ ਸੰਖੇਪ ਰਚਨਾ ਕਰਨੀ ਹੋਵੇਗੀ ਅਤੇ ਸਿਰਲੇਖ ਵੀ ਲਿਖਣਾ ਹੋਵੇਗਾ। ਸਿਰਲੇਖ ਦਾ ਇੱਕ ਅੰਕ ਅਤੇ ਸੰਖੇਪ ਰਚਨਾ ਦੇ ਤਿੰਨ ਅੰਕ ਹੋਣਗੇ। $1+3=4$ ਅੰਕ
- ਪ੍ਰਸ਼ਨ ਨੰ: 5** ਪਾਠ-ਪੁਸਤਕ ਅਤੇ ਪਾਠ- ਅਭਿਆਸਾਂ ਵਿੱਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਨੂੰ ਕੋਸ਼-ਤਰਤੀਬ ਅਨੁਸਾਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 3 ਅੰਕ
- ਪ੍ਰਸ਼ਨ ਨੰ: 6** ਪਾਠ-ਪੁਸਤਕ ਅਤੇ ਪਾਠ- ਅਭਿਆਸਾਂ ਵਿੱਚੋਂ ਕੋਈ ਪੰਜ ਵਾਕ ਦੇ ਕੇ ਕਿਸੇ ਤਿੰਨ ਦਾ ਵਾਕ-ਰੂਪਾਂਤਰਨ ਕਰਨ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। $1 \times 3 = 3$ ਅੰਕ
- ਪ੍ਰਸ਼ਨ ਨੰ: 7** ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚੋਂ ਕੋਈ ਸੱਤ ਅਖਾਉਤਾਂ ਦੇ ਕੇ ਚਾਰ ਨੂੰ ਵਾਕਾਂ ਵਿੱਚ ਵਰਤਣ ਜਾਂ ਉਹਨਾਂ ਦੀਆਂ ਵਰਤੋਂ ਸਥਿਤੀਆਂ ਦੱਸਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। $2 \times 4 = 8$ ਅੰਕ
- ਪ੍ਰਸ਼ਨ ਨੰ: 8** ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚੋਂ ਤਿੰਨ ਕਵਿਤਾਵਾਂ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਦਾ ਕੇਂਦਰੀ ਭਾਵ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 4 ਅੰਕ
- ਪ੍ਰਸ਼ਨ ਨੰ: 9** ਪਾਠ-ਪੁਸਤਕਾਂ ਵਿੱਚੋਂ ਦੋ ਕਹਾਣੀਆਂ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਦਾ ਸਾਰ ਆਪਣੇ ਸ਼ਬਦਾਂ ਵਿੱਚ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 7 ਅੰਕ

ਨਿਰਧਾਰਿਤ ਪਾਠ-ਪੁਸਤਕ ਲਾਜ਼ਮੀ ਪੰਜਾਬੀ-12

ਪ੍ਰਕਾਸ਼ਕ- ਪੰਜਾਬ ਸਕੂਲ ਸਿੱਖਿਆ ਬੋਰਡ

CLASS-XII**4. ENVIRONMENT EDUCATION****Time: 2 Hrs****Theory: 45 Marks****CCE: 05 Marks****Total: 50 Marks****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 questions 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 questions carrying 4 marks each. Answer to each question will be 50-60 words.
5. Question NO.16 and 17 long answer type question carrying 5 marks. Answer to this question 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 such as 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 guide lines.

Unit wise distribution of marks will be as follows.

UNIT WISE DISTRIBUTION OF MARKS

Unit	1 Mark questions	2 Mark questions	4 Mark questions	5 Mark questions
Unit-1 Biodiversity	1	1	1	1
Unit-II Environmental Management	1	1	1	or 1
Unit-III Sustainable Development	1	1	1	-
Unit-IV Sustainable Agriculture	1	1	1	1
Unit-V Environmental Actions	1	1	1	or 1
Total Maks	5 marks	10 marks	20 marks	10 marks

INSTRUCTIONS 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 IV and choice Question shuld be set from unit V.

SYLLABUS

Unit-1 Biodiversity

- Concept and value of biodiversity
- Levels of biodiversity species, eco and genetic.
- Balance in nature.
- Biodiversity for sustenance of mankind.
- Resource limitation.
- Ecological role of biodiversity.
- Interdependence among different species.
- India as a mega diversity nation.
- Economic potential of biodiversity.
- Loss of biodiversity- threatened, endangered and extinct.
- Strategies for conservation of biodiversity in situ and ex situ.
- Mitigating the people- wildlife conflict.

Unit-II Environmental Management

- Need for environment management vis-a-vis development.
- Aspects of environmental management-ethical, economic, technological and social.
- Legal provisions for environmental management.
- Approaches for environmental management- economic policies, environmental indicators, setting of standards, information exchange and surveillance.

Unit-III Sustainable Development

- Concept of sustainable development.
- Concept of sustainable consumption.
- Need for sustainable development for improving the quality of life for the present and future.
- Challenges for sustainable development-political and administrative will, dynamic and flexible policies, appropriate technologies, comprehensive review and revision mechanism, human approach.
- Development of skilled manpower.
- Role of individual and community.
- Role of national and international agencies(both governmental and non- governmental)

Unit-IV Sustainable Agriculture

- Need for sustainable agriculture.
- Green revolution-impact on environment.
- Importance of soil for crops, Irrigation systems, use of manure and fertilizers.
- Crop protection-major plant pests and diseases (wheat, rice, cotton, sugarcane, potato),measures for their control- agrochemicals.
- Impact of agrochemicals on environment.
- Elements of sustainable agriculture-mixed farming, mixed cropping, crop rotation, biological and economic consideration, use of biofertilizers and bio pesticides, biological pest control, integrated pest management.
- Application of biotechnology in crop improvement.
- Management of agricultural produces- storage, preservation, transportation and processing.

Unit-V Environmental Actions

- Meeting basic human need, food, water, shelter and fuel for all.
- Population control
- Changing consumption patterns.
- Prevention and control of environmental pollution.
- Waste management- reduce, reuse and recycle;
- Community movement for ecological restoration and conservation of environment like joint forest Management (JFM), student's participation in tree rearing, social and agro- forestry.

CCE

Example projects and Activities:

It is expected that student will undertake two projects or activities. These projects should be undertaken individually and student will prepare a report in each case. Teacher may plan and design projects and activities depending upon the local situations, available resources and environmental issues of concern. The projects and activities given below are only suggestive and not prescriptive.

- To study the status of an endangered species listed for region by collecting information through different sources and observation and to assess the reasons for its diminishing number. Suggest ways and means to protect the species.
- To conduct a survey of plants and trees in the locality and collect information about their cultural, economic and medicinal values from the local people and available literature. To prepare an action plan for afforestation and planting of trees as trees are most valuable in terms of their cultural, economic importance and medicinal use.
- To study the practices followed in the region for storage, preservation, transportation and processing of perishable or non perishable farm products and to assess the extent of their wastage due to faulty practices.
- To make a list of raw materials used by the family for preparing different types of dishes. To identify the plants and their parts from which food material is obtained. To make a list of plants on which the animals depend for their food. To prepare a report supported by diagrams/photographs/pictures/graphs to focus on the importance of biodiversity in providing food to human population.
- To study the impact of changes in agricultural practices of animal husbandry including poultry, piggery, fishery and apiculture over a period of time in the local environment or in a given locality or village. The components for analysis may include; types of crop, land area under cultivation, mechanization, use of electricity, mode of irrigation and agrochemicals, agro wastes and their disposal, types of animal breed and their feed, types of shelter and health care, method of preservation and processing of products and animal wastes and their disposal. To suggest an action plan for modifying the prevailing practices so as to make them environment friendly and sustainable.

CLASS-XII

6. ਪੰਜਾਬੀ (ਚੋਣਵਾਂ ਵਿਸ਼ਾ)

ਸਮਾਂ : 3 ਘੰਟੇ

ਲਿਖਤੀ ਪੇਪਰ : 90 ਅੰਕ
ਆਂਤਰਿਕ ਮੁਲਾਂਕਣ: 10 ਅੰਕ
ਕੁੱਲ: 100 ਅੰਕ

ਲੜੀ ਨੰ:	ਪਾਠ-ਕ੍ਰਮ	ਅੰਕ
1.	ਪੰਜਾਬੀ-ਕਾਵਿ:- ਸੂਫੀ-ਕਾਵਿ, ਗੁਰਮਤਿ-ਕਾਵਿ, ਕਿੱਸਾ-ਕਾਵਿ ਅਤੇ ਬੀਰ-ਕਾਵਿ	40
2.	ਪੰਜਾਬੀ ਵਾਰਤਕ:- ਪੰਜਾਬੀ ਸ਼ੈਲੀਵਨੀਆਂ ਵਿੱਚੋਂ ਲਏ ਅੰਸ਼	22
3.	ਸਾਹਿਤ ਰੂਪ:- ਕਵਿਤਾ, ਨਿਬੰਧ, ਨਾਵਲ, ਨਿੱਕੀ ਕਹਾਣੀ, ਜੀਵਨੀ, ਸ਼ੈਲੀਵਨੀ, ਸਫ਼ਰਨਾਮਾ	13
4.	ਛੰਦ, ਅਲੰਕਾਰ, ਰਸ	15
ਕੁੱਲ ਅੰਕ		90

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

ਪ੍ਰਸ਼ਨ ਨੰ: 1 ਸਮੁੱਚੇ ਪਾਠ-ਕ੍ਰਮ ਦੇ ਆਧਾਰ 'ਤੇ 10 ਅੰਕਾਂ ਦੇ ਵਸਤੂ-ਨਿਸ਼ਠ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਇਹ ਪ੍ਰਸ਼ਨ ਬਹੁ-ਚੋਣ, ਠੀਕ/ਗਲਤ, ਖਾਲੀ ਥਾਂਵਾਂ ਜਾਂ ਇੱਕ ਜਾਂ ਦੋ ਸ਼ਬਦਾਂ ਵਿੱਚ ਉੱਤਰ ਦੇਣ ਵਾਲੇ ਹੋਣਗੇ। ਅੰਕਾਂ ਦੀ ਵੰਡ ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਹੋਵੇਗੀ :-

(ੳ) **ਮੱਧ-ਕਾਲੀਨ ਪੰਜਾਬੀ-ਕਾਵਿ (ਝਲਕਾਂ ਤੇ ਇਤਿਹਾਸ):-** 4 ਅੰਕ, ਸੂਫੀ-ਕਾਵਿ, ਗੁਰਮਤਿ-ਕਾਵਿ, ਕਿੱਸਾ-ਕਾਵਿ ਅਤੇ ਬੀਰ-ਕਾਵਿ ਵਿੱਚੋਂ ਇੱਕ-ਇੱਕ ਪ੍ਰਸ਼ਨ ਪੁੱਛਿਆ ਜਾਵੇਗਾ। ਇਹ ਪ੍ਰਸ਼ਨ ਰਚਨਾ ਦੇ ਕਵੀ/ਕਵੀ ਦੀ ਰਚਨਾ ਅਤੇ ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਦਿੱਤੀ ਪਾਠ-ਸਮਗਰੀ 'ਤੇ ਆਧਾਰਿਤ ਹੋਣਗੇ।

(ਅ) **ਆਪ-ਬੀਤੀਆਂ:-** 2 ਅੰਕ, ਇੱਕ ਪ੍ਰਸ਼ਨ ਸ਼ੈਲੀਵਨੀ ਅੰਸ਼ ਦੇ ਲੇਖਕ ਸੰਬੰਧੀ/ਲੇਖਕ ਦੇ ਸ਼ੈਲੀਵਨੀ ਅੰਸ਼ ਸੰਬੰਧੀ ਅਤੇ ਦੂਜਾ ਪ੍ਰਸ਼ਨ ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਨਿਰਧਾਰਿਤ ਪਾਠ ਸਮਗਰੀ 'ਤੇ ਆਧਾਰਿਤ ਹੋਵੇਗਾ।

(ੲ) **ਸਾਹਿਤ-ਬੋਧ:-** 4 ਅੰਕ, ਇੱਕ ਪ੍ਰਸ਼ਨ ਸਾਹਿਤ-ਰੂਪ ਨਾਲ ਸੰਬੰਧਿਤ, ਇੱਕ ਪ੍ਰਸ਼ਨ ਅਲੰਕਾਰ ਨਾਲ, ਇੱਕ ਪ੍ਰਸ਼ਨ ਛੰਦ ਨਾਲ ਅਤੇ ਇੱਕ ਪ੍ਰਸ਼ਨ ਰਸ ਨਾਲ ਸੰਬੰਧਿਤ ਹੋਵੇਗਾ। 10×1=10 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 2 'ਮੱਧ-ਕਾਲੀਨ ਪੰਜਾਬੀ-ਕਾਵਿ (ਝਲਕਾਂ ਤੇ ਇਤਿਹਾਸ)' ਦੇ 'ਸੂਫੀ-ਕਾਵਿ', 'ਗੁਰਮਤਿ-ਕਾਵਿ', 'ਕਿੱਸਾ-ਕਾਵਿ' ਅਤੇ 'ਬੀਰ-ਕਾਵਿ' ਵਾਲੇ ਭਾਗ ਵਿੱਚੋਂ ਚਾਰ ਕਾਵਿ-ਟੋਟੇ ਦੇ ਕੇ ਕਿਸੇ ਦੋ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ ਕਰਨ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। ਹਰ ਪ੍ਰਸੰਗ ਲਈ 3 ਅਤੇ ਵਿਆਖਿਆ ਦੇ 5 ਅੰਕ ਹੋਣਗੇ। 8+8=16 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 3 'ਮੱਧ-ਕਾਲੀਨ ਪੰਜਾਬੀ-ਕਾਵਿ (ਝਲਕਾਂ ਤੇ ਇਤਿਹਾਸ)' ਪੁਸਤਕ ਦੇ ਕਵਿਤਾ ਭਾਗ ਵਿੱਚੋਂ ਕੋਈ ਤਿੰਨ ਰਚਨਾਵਾਂ ਦੇ ਨਾਂ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਦਾ ਕੇਂਦਰੀ ਭਾਵ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 5 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 4 'ਮੱਧ-ਕਾਲੀਨ ਪੰਜਾਬੀ-ਕਾਵਿ (ਝਲਕਾਂ ਤੇ ਇਤਿਹਾਸ)' ਪੁਸਤਕ ਦੇ ਇਤਿਹਾਸ ਭਾਗ ਵਿੱਚੋਂ 'ਸੂਫੀ-ਕਾਵਿ', 'ਗੁਰਮਤਿ-ਕਾਵਿ', 'ਕਿੱਸਾ-ਕਾਵਿ' ਅਤੇ 'ਬੀਰ-ਕਾਵਿ' ਨਾਲ ਸੰਬੰਧਿਤ ਪਾਠਾਂ ਅਤੇ ਪਾਠ-ਅਭਿਆਸ ਵਿੱਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਦਾ ਉੱਤਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 15 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 5 'ਆਪ-ਬੀਤੀਆਂ' ਪਾਠ-ਪੁਸਤਕ ਅਤੇ ਪਾਠ-ਅਭਿਆਸਾਂ ਉੱਤੇ ਆਧਾਰਿਤ ਛੋਟੇ ਉੱਤਰਾਂ ਵਾਲੇ ਅੱਠ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ ਅਤੇ ਉਹਨਾਂ ਵਿੱਚੋਂ ਕਿਸੇ ਪੰਜ ਦੇ ਉੱਤਰ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। 5×4=20 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 6 'ਸਾਹਿਤ-ਬੋਧ' ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚੋਂ ਕਿਸੇ ਤਿੰਨ ਸਹਿਤ ਰੂਪਾਂ ਦੇ ਨਾਂ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਬਾਰੇ ਨੋਟ ਲਿਖਣ ਲਈ
ਕਿਹਾ ਜਾਵੇਗਾ। 12 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 7 'ਸਾਹਿਤ-ਬੋਧ' ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚੋਂ ਦੋ ਛੰਦਾਂ, ਦੋ ਅਲੰਕਾਰਾਂ ਅਤੇ ਦੋ ਰਸਾਂ ਬਾਰੇ ਪੁੱਛ ਕੇ ਕਿਸੇ ਇੱਕ ਛੰਦ, ਇੱਕ
ਅਲੰਕਾਰ ਅਤੇ ਇੱਕ ਰਸ ਬਾਰੇ ਉਦਾਹਰਨਾਂ ਸਹਿਤ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ।

4+4+4 =12 ਅੰਕ

ਨਿਰਧਾਰਿਤ ਪਾਠ-ਪੁਸਤਕਾਂ :-

1. ਮੱਧ-ਕਾਲੀਨ ਪੰਜਾਬੀ-ਕਾਵਿ (ਝਲਕਾਂ ਤੇ ਇਤਿਹਾਸ)

2. ਆਪ-ਬੀਤੀਆਂ

3 ਸਾਹਿਤ-ਬੋਧ

ਪ੍ਰਕਾਸ਼ਕ: ਪੰਜਾਬ ਸਕੂਲ ਸਿੱਖਿਆ ਬੋਰਡ।

CLASS-XII
8. ENGLISH ELECTIVE

Time: 3Hrs

Theory: 90Marks
CCE: 10 Marks
Total: 100 Marks

STRUCTURE OF QUESTION PAPER

Part -A

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

I. 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.

- Dear to All the Muses 3
- The Literary Petals 3
- Select One Act Plays/ Pride and Prejudice 2
- Grammar 2

PART B- DEAR TO ALL THE MUSES

Text for detailed study (19 marks)

II. Comprehension of a passage: **10**

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

- (i) Three short- answer questions 3
- (ii) Matching exercise (three words to be matched out of four words) 3
- (iii) Fill in the blanks (Two sentences) 2
- (iv) Finding one word for a given expression from the passage. 2

III. 3 out of 4 short answer type questions based on the contents of different lessons (to be answered in 50-60 words each). **3×3=9**

Along with the Exercises, the questions can be asked from content also.

PART C-THE LITERARY PETALS (24 marks)

Text for detailed study

IV. (a) Four short answer type questions (to be answered in 50-60 word each) 2
from stories and 2 from poems as suggested at the end of each lesson, with internal choice in each question. **3×4=12**

(b) One essay type (long answer type) comprehension question (with internal choice) as suggested in the exercises at the end of each story. **6**

V. Explanation with Reference to the Context (POEMS ONLY) of a given stanza/lines.

OR

A question on summary/substance/development of thought etc. of a poem (with internal choice) **6**

PART D-SELECT ONE-ACT PLAYS/PRIDE AND PREJUDICE

Text for non-detailed study (15 marks)

SELECT ONE-ACT PLAYS

- VI (a) Explanation with Reference to the Context. 5
- (b) Character – Sketch (with internal choice) 5
- (c) Question on theme/incident/episode etc. 5

OR

PRIDE AND PREJUDICE

- (a) Character sketch (with internal choice) 8
(b) Theme/Incident/Episode (with internal choice) 7

PART-E COMPOSITION & VOCABULARY (22marks)

- VII Paragraph Writing (one out of five) 6
VIII Do as directed type questions covering the following items:
I. Change of Voice 2
II. Change of Narration 2
III. Combining two simple sentences into one use linkers etc. 2
IV. Use of Modals 2
V. Transformation of sentences (use of gerunds, to-infinitive, participles, adverbials) 2

Note: The above question will be based as far as possible, on the text books.

- IX TRANSLATION (Need not be text based, should be simple, can be from anywhere outside text books.) 6

From Vernacular into English

A small running passage of about 5/6 sentences.

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

Paragraph/Composition

SYLLABUS PART-A

DEAR TO ALL THE MUSES LESSON

1. The Horse
2. Warrior against Weeds
3. A Most Forgiving Ape
4. A Young Turkish Catastrophe
5. A Tiny Sanctuary
6. Mano Majra
7. Jamaican Fragment
8. The Heritage of India
9. Gold in the North
10. My Greatest Olympic Prize
11. The Green Revolution
12. The Snob
13. Most Dear to All the Muses
14. The Case For the Defence
15. On My Seventieth Birthday

THE LITERARY PETALS:

LESSON:

1. Hind ki Chadar Sri Guru Teg Bahadur
2. Border Guards (Poem)
3. My Heart Leaps when I Behold (Poem)
4. The Gambling Match
5. The Quality of Mercy (Poem)
6. The Fancy Dress Show (Poem)
7. The Eternal Why
8. What Though the Field be Lost (Poem)
9. The Song of India (Poem)
10. After Twenty Years
11. The Tree Fell down (Poem)
12. The World Today is Wild with the Delirium of Hatred (Poem)
13. Attacked by Pit Bulls
14. Slave ? No Master (Poem)
15. The Unrest of Desire (Poem)
16. The Boy Who Broke the Bank
17. Still Life (Poem)
18. Is This The End? (Poem)
19. The Conjuror's Revenge
20. Guru (Poem)
21. A River Tern on the Ganga (Poem)
22. The Ant and the Grasshopper
23. A Psalm of Life (Poem)
24. Hymn of Swaraaj (Poem)

SELECT ONE-ACT PLAYS

1. The Bishop's Candlesticks
2. The Miracle-Merchant
3. The Man Who Wouldn't Go to Heaven
4. The Monkey's Paw

Novel: Pride & Prejudice

PART-B

COMPOSITION, VOCABULARY, APPLIED GRAMMAR

Paragraph Writing/ Extended Composition

Translation : 1 Paragraph from Hindi/Punjabi to English.

APPLIED GRAMMAR: Do as directed type questions covering the following items

- (i) Change of Narration
- (ii) Change of Voice
- (iii) Joining two simple sentences into one using linkers etc
- (iv)** Use of Modals
- (v)** Transformation of Sentences (Use of gerunds, Infinities, Participles adverbials)

The books Prescribed & Published by the Punjab School Education Board.

1. Dear to All the Muses
2. The Literary Petals
3. Select One Act Plays
4. Pride and Prejudice

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

7. HINDHI

पाठ्यक्रम 2016-17 (संशोधित)

कक्षा : बारहवीं	पूर्णांक - 90	
समय : 3 घंटे	विषय : हिंदी	सी.सी.ई - 10

विषय वस्तु	अंक
भाग-क : अति लघूत्तर प्रश्न (वस्तुनिष्ठ प्रश्न)	10
भाग-ख : पाठ्य -पुस्तक (हिंदी पुस्तक-12)	35
भाग-ग -हिंदी साहित्य का इतिहास (रीतिकाल एवं आधुनिक काल)	10
भाग-घ - रचनात्मक लेखन : निबंध लेखन	10
भाग-ङ - व्यावहारिक ज्ञान	15
1.पंजाबी गद्यांश का हिंदी अनुवाद	(5)
2.पारिभाषिक शब्दावली (J से लेकर Z तक)	(6)
3.विज्ञापन लेखन, सूचना लेखन	(4)
भाग-च - छंद एवं अलंकार	10
1. छंद (दोहा,सोरठा,सवैया,कवित्त,चौपाई)	(5)
2. अलंकार (अनुप्रास,उपमा,रूपक,यमक,श्लेष)	(5)
पंजाब स्कूल शिक्षा बोर्ड द्वारा निर्धारित पाठ्य - पुस्तकें	
1. हिंदी पुस्तक-12	
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 : बारहवीं पूर्णांक - 90
विषय : हिंदी सी.सी.ई - 10
समय : 3 घंटे

- 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 करो अथवा सही/गलत अथवा बहुवैकल्पिक उत्तरों वाले, किसी भी प्रकार के हो सकते हैं।

- (i) से (iii) तक समास (अव्ययीभाव, तत्पुरुष, बहुव्रीहि तथा द्वंद्व) से सम्बन्धित तीन वस्तुनिष्ठ प्रश्न पूछे जायेंगे। $1 \times 3 = (3)$
- (iv) पद परिचय से सम्बन्धित एक वस्तुनिष्ठ प्रश्न पूछा जायेगा। (1)
- (v) से (vi) तक पाठ्य-पुस्तक (हिंदी पुस्तक-12) में से दो वस्तुनिष्ठ प्रश्न पूछे जायेंगे। $1 \times 2 = (2)$
- (vii) से (viii) तक हिंदी साहित्य का इतिहास (ऐतिहासिक एवं आधुनिक काल) में से दो वस्तुनिष्ठ प्रश्न पूछे जायेंगे। $1 \times 2 = (2)$
- (ix) छंद में से एक वस्तुनिष्ठ प्रश्न पूछा जायेगा। (1)
- (x) अलंकार में से एक वस्तुनिष्ठ प्रश्न पूछा जायेगा। (1)

भाग-ख (पाठ्य -पुस्तक) 35

प्रश्न-2 (i) हिंदी पुस्तक-12 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-12 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 (रीतिकाल एवं आधुनिक काल) 10

- प्रश्न-9 इस प्रश्न में हिंदी साहित्य के 'रीतिकाल'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 'आधुनिक काल'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) 10

- प्रश्न-11 यह प्रश्न निबंध रचना से सम्बन्धित होगा। कोई चार विषय देकर उनमें से किसी एक विषय पर लगभग 250 शब्दों में निबंध लिखने के लिये कहा जायेगा। भूमिका के 2 अंक, विषय वस्तु के 6 अंक और उपसंहार के 2 अंक निर्धारित हैं। $2+6+2= (10)$

भाग-ङ (व्यावहारिक ज्ञान) 15

- प्रश्न-12 इस प्रश्न में लगभग 50 शब्दों का पंजाबी में एक गद्यांश दिया जायेगा जिसका अनुवाद हिंदी में लिखना होगा। (5)
- प्रश्न-13 अंग्रेजी के छह पारिभाषिक शब्द दिये जायेंगे जिनमें से किन्हीं चार शब्दों के हिंदी रूप लिखकर वाक्यों में प्रयोग करने के लिये कहा जायेगा। $1\frac{1}{2} \times 4 (6)$
- प्रश्न-14 विज्ञापन और सूचना से सम्बन्धित दो प्रश्न पूछे जायेंगे जिनमें से एक प्रश्न का उत्तर लिखने के लिये कहा जायेगा। (4)

भाग-च (छंद एवं अलंकार) 10

- प्रश्न-15 कोई दो छंद देकर किसी एक छंद का लक्षण एवं उदाहरण लिखने के लिये कहा जायेगा। (5)
- प्रश्न-16 कोई दो अलंकार देकर किसी एक अलंकार की परिभाषा एवं उदाहरण लिखने के लिये कहा जायेगा। (5)

25. RELIGION

Time: 3 Hrs

Theory: 90 Marks

CCE: 10 Marks

Total: 100 Marks

STRUCTURE OF QUESTION PAPER

1. The question paper will comprise of 32 questions in total.
2. All questions will be compulsory to attempt.
3. The question paper will consist of four parts with each part representing all sections and all religions.

Part-I will consist of ten (10) objective type questions (Q. no. 1 to 10) 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. $10 \times 1 = 10$

Part-II will consists of eight (8) short answer type -I questions (Q. no. 11 to 18) carrying 2 marks each. Answer of each question should be given within 30-35 words. $8 \times 2 = 16$

Part-III will consist of ten (10) short answer type-II questions (Q. no. 19 to 28) carrying 4 marks each. Answer of each question should be given within 60-70 words. Out of ten, three Questions will have internal choice. $10 \times 4 = 40$

Part-IV will consist of four (4) long answer type questions with internal choice (Q. no. 29 to 32) carrying 6 marks each. Answer of each question should be given in approximately $1\frac{1}{2}$ to 2 pages of the answer sheet. $4 \times 6 = 24$

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	Section C	
Objective type	1 Mark	10	3	3	4	10
Short answer type-I	2 Marks	08	3	3	2	16
Short answer type-II	4 Marks	10	4	3	3	40
Long answer type	6 Marks	04	1	1	2	24
Total		32	11	10	11	90

SYLLABUS

SECTION A: (HISTORICAL)

- (1) Religious life of the Indus valley people and early Aryans.
- (2) Buddhist movement (up to Ashoka Period).
- (3) Rise And development of Sikhism (A.D. 1469 – 1708).

SECTION B : (LITERARY)

- (1) Introduction to Vedic Literature (name and main features of the four Vedas).
- (2) General Introduction to Puranas, Upanishads, Shastras.
- (3) The Adi-Granth – its editing scheme.

SECTION C : (REFLECTIVE)

- (1) Ashta marga of Buddhism.
- (2) Ethical teachings of Jainism.
- (3) The Sikh way of life.

BOOK PRESCRIBED

An Introduction to Indian Religion by Harbans Singh & L.M. Joshi (Punjabi University, Patiala).

BOOK SUGGESTED (for general reading)

Punjabi University, Patiala

Budhism

Jainism

Sikhism

Surinder Singh Johar – A hand book of Sikhism.

CLASS-XII
35. PSYCHOLOGY

Time: 3 Hrs

Time: 3 Hrs

Theory: 70 Marks

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 to 24) 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	3	3	3	4	4	3	70

SYLLABUS

Unit I Growth and Development: Difference between Growth and Development, Principles of Growth and Development. Stages of Growth and Development, Physical, Mental, Emotional and Social, Characteristics of Adolescence, Effect of Heredity and Environment in Growth and Development.

Unit II Emotions: Definition, Concept and Characteristics of Emotions, Physical and Physiological changes accompanying emotions. Difference between

emotions and feelings, Important emotions: Fear, Anger and Aggression, Jealousy, Love, Happiness, Curiosity.

Unit III Motivation: Meaning, Definition and Characteristics of Motivated behaviour, Classes and types of Motives and Needs, Maslow's Theory of Hierarchy of needs. Instincts, Drives, Incentives and goals as Motives. Frustrations and Conflicts of Motives.

Unit-IV Thinking, Reasoning and Problem Solving: Definition, types and stages of Thinking-images and Thinking – Languages and Thinking. Reasoning - Definition, Characteristics, steps and types of Reasoning - Problem solving - Creative thinking - Concepts : Definition, type of formation of concepts.

Unit-V Delinquency and Mental Health: Delinquent Behavior, Definition, Characteristics, Causes, Remedial and Preventive Measures - Mental Health: Meaning and Definition - Characteristics of a 'Mentally healthy person, Defence Mechanism.

Unit-VI Intelligence : Definition, Nature and theories : Spearman's two theory and Thrnstone's Primary Mental Abilities theory - Concept of I.Q. Measurement of Intelligence - Intelligence Tests - Relative Role of Heredity and Environment on the development of Intelligence.

Unit-VII Personality: Definition, Nature, Characteristics and Traits of Personality Classification of Personality: Sheldon's Jung's and Eysenck's Classifications- Theories of Personality, Freud's Psychoanalytical theory - Jung's Analytical theory, Allport's theory of cardinal traits, Carl Roger's theory of self, Adler's theory of will power.

Unit-VIII Statistics: Frequency distribution, Mean, Median, Mode, Mean Deviation, Standard Deviation, Quartile Deviation. (Only numerical will be set from this unit.)

Experiments:

1. Muller Lyer Illusions
2. Maze learning.
3. Card Sorting
4. Problem Solving
5. Intelligence test-Verbal
6. Intelligence test-Non-Verbal
7. Imagery Types.
8. Personality Inventory

CLASS-XII
36. HOME SCIENCE

Time: 3 Hrs
Time: 3 Hrs

Theory: 60 Marks
Practical: 30 Marks
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.

$$7 \times 1 = 7$$

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.

$$11 \times 3 = 33$$

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 150-200 words.

$$4 \times 5 = 20$$

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	07
Short answer type	3 Marks	11	6	5	33
Long answer type	5 Marks	4	2	2	20
Total		22	11	11	60

SYLLABUS (THEORY)
SECTION - A
(Food and Nutrition)

1. Food, Nutrition and Health

- i. Definitions: Food, Nutrition, Health, Nutrients, Nutrient density, Malnutrition, Recommended Dietary Allowances, Nutritional Status, Functional Food, Nutraceuticals, Antioxidants, Geriatrics, Probiotics. Functions of food
- ii. Classification of Food groups based on the recommendation of ICMR
- iii. Balanced Diet
- iv. Food Guide pyramid

2. Nutrients and nourishment

Carbohydrates, Proteins, Fats, Minerals (calcium, Phosphorus, iron, zinc, iodine, fluorine), Vitamins (A,D,E,K,B and C) and Water

- i. Functions and sources
- ii. Health effects of too little and too much of nutrients
- iii. Enhancing nutritional value of foods

3. Meal Planning

- i. Meaning, importance and principles of meal Planning
- ii. Planning meals for the family- Children (Infants, pre schoolers and school going children), adolescents (boys and girls), adults (men and women), pregnant women, lactating mothers and elderly.

4. Food selection, storage, preparation and preservation at home

- i. Food selection and storage
- ii. Preparation of food: Different methods of cooking
- iii. Food preservation at home – importance and methods

5. Food Safety

- i. Food hygiene
- ii. Food Adulteration
- iii. Removal of the pesticide residues from food by different methods.

6. Diet therapy

- i. Principles of diet therapy
- ii. Adaptation of normal diet for therapeutic purpose

SECTION –B (Human Development)

1. Beginning of Motherhood

- i. Signs, discomforts and warning signs of pregnancy
- ii. Antenatal care of expectant mother (diet, rest, exercise, medical check-ups and immunization)
- iii. Alternative reproductive methods (in vitro fertilization, gamete intrafallopian transfer, zygote intrafallopian transfer and Surrogacy)

2. Prenatal Physiological Processes

- i. Stages of prenatal development (germinal, embryonic and fetal)
- ii. Fetal monitoring techniques (ultrasound, chorionic villus sampling, amniocentesis and foetoscopy)
- iii. Environmental influences on prenatal development (teratogens, diseases, harmful drugs and x-ray)

3. Birth process

- i. Stages of birth process (dilation, expulsion and placental stage)
- ii. Types of child birth (natural, instrument, breech and caesarean)
- iii. Categories of new born babies (pre term, term and post-term)

4. Postnatal care of mother

- i. Meaning and purpose of postnatal care
- ii. Aspects of postnatal care
- iii. Effects of parenthood on mother, father and other family members

5. Care of newborn

- i. Characteristics of new born
- ii. Neonatal reflexes
- iii. Feeding, bathing and clothing of newborn
- iv. Immunization
- v. Developmental milestones and delays

6. Infant stimulation

- i. Mother-child interaction
- ii. Developmentally appropriate play material
- iii. Common childhood ailments

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 10 Marks

Section-A

(Food and Nutrition)

2. Any one practical based on practical no. 2, 3, and 4 5Marks
3. Any two tests based on practical no. 5 5 Marks

Section-B

(Child Development and Mother Craft)

4. Any one practical based on practical no. 4 and 5. 5 Marks
5. Any one practical based on practical no. 6 and 7. 5 Marks

SYLLABUS (PRACTICAL)

Section-A

(Food and Nutrition)

1. Preparation of list of foods available in your home according to food groups.
2. Preparation of
 - a) Healthy salads
 - b) Dishes enhancing nutrition value of food (by Combination of cereals, pulses and vegetables, fermentation and sprouting)
 - c) Protein rich snacks and desserts.
3. Freezing and sun drying of blanched vegetables.
4. Preparation of ORS solution.
5. Simple tests for checking adulteration in :
 - a) Cereals : rice, semolina (*suji*).
 - b) Pulses : Bengal Gram (*channa dal*)
 - c) Milk
 - d) Tea leaves
 - e) Coriander powder
 - f) Turmeric powder
 - g) Powdered sugar
 - h) Black pepper

Section-B
(Child Development and Mother Craft)

1. Showing a documentary on neo-natal reflexes and care and management of pre-term babies

<http://www.vhai.org/ceo/filmsforchange.php>

2. Recording of immunization schedule of infants and children
3. Demonstration on feeding, bathing and clothing of newborn
4. Preparing developmentally appropriate play material
5. Demonstration on sterilization of feeding bottles and disinfecting clothing of infants
6. Preparation of weaning foods- liquid and semi-solids
7. Preparation of visual aids related to developmental milestones of infancy
8. Showing a documentary on family planning methods

<http://www.vhai.org/ceo/filmsforchange.php>

Films:

- Aparajita
- Anant

Oriented videos:

- Neo-Natal
- Aaj Ki Na Samajhi Kal Ki Pareshani

CLASS-XII
46. PHYSICS

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.
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. These will be internal choice in any 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	MARKS	PERCENTAGE OF MARKS
KNOWLEDGE	26	36%
UNDERSTANDING	30	44%
APPLICATION	14	20%
Total	70	100%

7. In the category of one mark question there will be 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% i.e 14 marks. There will be three numericals of 2 marks each & 2 numericals of 4 marks each.

UNIT WISE DISTRIBUTION OF MARKS

Unit No.	Title	Marks
UNIT-I	Electrostatics	10
UNIT-II	Current Electricity	07
UNIT-III	Magnetic effects of current and magnetism	09
UNIT-IV	Electromagnetic Induction & current	07
UNIT-V	Electromagnetic waves	03
UNIT-VI	Optics	14
UNIT-VII	Dual nature of matter	05
UNIT-VIII	Atoms and Nuclei	05
UNIT-IX	Electronics devices	07
UNIT-X	Communication Systems	03
Total Marks		70

SCHEMATIC DISTRIBUTION OF MARKS

UNIT	Title	1 Mark Question	2 Marks Question	4 Marks Question	6 Marks Question	Total Marks
1	Electrostatic	-	-	1	1	10
2	Current Electricity	1	1	1	-	07
3	Magnetic effects of current & magnetism	1	1	-	1	09
4	Electromagnetic Induction & Alternating current	1	1	1	-	07
5	Electromagnetic waves	1	1	-	-	03
6	Optics	-	2	1	1	14
7	Dual Nature of matter	1	-	1	-	05
8	Atoms & Nuclei	1	-	1	-	05
9	Electronic devices	1	1	1	-	07
10	Communication system	1	1	-	-	03
Total Questions		8	8	7	3	26
Total Marks		8	16	28	18	70

INSTRUCTION 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.

THEORY

Unit-1: Electrostatics

Electric Charges; and their Conservation, Coulomb's law-force between two point charges, forces between multiple charges; superposition principle and continuous charge distribution.

Electrical field, electric field due to a point charge, electric-field lines; electric dipole, electric field due to a dipole; torque on a dipole in uniform electric field.

Electric flux, statement of Gauss's theorem and its applications to find electric field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (Field inside and outside).

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two point charges and of electric dipole in an electrostatic field.

Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarisation, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor, Van de Graaf generator.

Unit-II: Current Electricity

Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current: Ohm's law, electrical resistance. V-I characteristics (linear and non linear), electrical energy and power, electrical resistivity and conductivity. Carbon resistors, colour code for carbon resistors; series and parallel combinations of resistors; temperature dependence of resistance.

Internal resistance of a cell, potential difference and emf of cell, combination of cells in series and in parallel.

Kirchhoff's laws and simple applications of Wheatstone bridge, meter bridge.

Potentiometer-principle and its applications to measure potential difference and for comparing emf of two cells, measurement of internal resistance of a cell.

Unit-III: Magnetic Effects of Current and Magnetism

Concept of magnetic field. Oersted's experiment;

Biot-savart law and its application to current carrying circular loop.

Ampere's law and its applications to infinitely long straight wire, straight and toroidal solenoids.

Force on a moving charge in uniform magnetic and electric fields. Cyclotron.

Force on a current-carrying conductor in a uniform magnetic field Force between two parallel current-carrying conductors, definition of ampere. Torque experienced by a current loop in uniform magnetic field; moving coil galvanometers- its current sensitivity and conversion to ammeter and voltmeter.

Current loop as a magnetic dipole and its magnetic dipole moment. Magnetic dipole moment of a revolving electron. Magnetic field intensity due to a

magnetic dipole (Bar magnet) along its axis and perpendicular to its axis. Torque on a magnetic dipole (bar magnet) in a uniform magnetic field; bar magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field and magnetic elements, Para-, dia- and ferro-magnetic substances with examples, Electromagnets and factors affecting their strengths. Permanent magnets.

Unit-IV: Electromagnetic Induction and Alternating Currents

Electromagnetic induction, Faraday's laws, induced emf and current, Lenz's Law, Eddy currents: Self and mutual inductance.

Alternating current, peak and rms value of alternating current/voltage; reactance and impedances; LC oscillations, (qualitative treatment only), LCR series circuit resonance; power in AC circuit, wattless current.

AC generator and transformer.

Unit-V: Electromagnetic Waves

Need for displacement current, Electromagnetic waves and their characteristics (qualitative ideas only). Transverse nature of electromagnetic waves.

Electromagnetic spectrum (Radio waves, Radio-microwaves, infra-red, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.

Unit-VI: Optics

Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection and its applications, optical fibers, refraction at spherical surfaces, lenses, thin lens formula, lens-maker's formula. Magnification, power of a lens, combination of thin lenses in contact, combination of lens and mirror. Refraction and dispersion of light through a prism.

Scattering of light-blue colour of the sky and reddish appearance of the sun at sunrise and sunset.

Optical instruments:

Human eye, image formation and accommodation, correction of eye defects (myopia, hypermetropia) using lenses. Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

Waves optics :

wave front and Huygens' Principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygens' Principle. Interference. Young's double hole experiment and expression for fringe width, coherent sources and sustained interference of light. Diffraction due to a single slit, width of central maximum. Resolving power of microscopes and astronomical telescopes. Polarisation, plane polarised light -Brewster's law, uses of plane polarised light and Polaroids.

Unit-VII: Dual nature of Matter and Radiation

Photoelectric effect, Hertz and Lenard's observations'; Einstein's photoelectric equation, particle nature of light.

Matter waves-wave nature of particles, de Broglie relation. Davission-Germer experiment (experimental details should be omitted; only conclusion should be explained).

Unit-VIII: Atoms & Nuclei

Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum.

Composition and size of nucleus, atomic masses, isotopes, isobars; isotones. Radioactivity- alpha, beta and gamma particles/rays and their properties; radioactive decay law. Mass-energy relation, mass-defect; binding energy per nucleon and its variation with mass number; nuclear fission and fusion,

Unit-XI: Electronic Devices

Energy bands in solids (qualitative idea only) conductor, insulators and Semiconductors; semiconductor Diode-1-V characteristics in forward and reverse bias, diode as a rectifier, 1-V characteristics of LED, photodiode, solar cell and Zener diode, Zener diode as a voltage regulator. Junction transistor, transistor action; characteristics of a transistor: transistor as an amplifier (common emitter configuration) and oscillator, Logic gates (OR, AND, NOT, NAND and NOR). Transistor as a switch.

Unit-X: Communication Systems

Elements of a communication system (block diagram only); bandwidth of signals (speech, TV and digital data); bandwidth of transmission medium- Propagation of electromagnetic waves in the atmosphere, Sky and space wave propagation. Need for modulation. Production and detection of an amplitude modulated wave.

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	<u>20</u>

PRACTICALS SYLLABUS**Experiments****SECTION-A**

- To determine resistance per unit length of a given wire by plotting a graph of potential difference versus current.
- To find resistance of a given wire using meter bridge and hence determine the specific resistance of its material.
- To verify the laws of combination (series/parallel) of resistance using a meter bridge.
- To compare the emf of two given primary cells using potentiometer.
- To determine the internal resistance of given primary cell using potentiometer.
- To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.

7. To convert the given galvanometer of known resistance and figure of merit into an ammeter and voltmeter of desired range and to verify the same.
8. To find the frequency of the A.C. mains using a sonometer and electromagnet.

SECTION-B

1. To find the value of v for different values of u in case of a concave mirror and find their focal length.
2. To find the focal length of a convex lens by plotting graphs between u and v or between $1/u$ and $1/v$.
3. To find the focal length of a convex mirror, using a convex lens.
4. To find the focal length of a concave lens, using a convex lens.
5. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.
6. To draw the I-V characteristic curve of a p-n junction in forward bias and reverse bias.
7. To draw the characteristic curve of a zener diode and to determine its reverse breakdown voltage.
8. To study the characteristics of a common-emitter npn or pnp transistor and to find out the values of current and voltage gains.
9. To determine the reflective index of a glass slab using a traveling microscope.
10. To find refractive index of a liquid by using (i) Concave mirror. (ii) Convex lens and plane mirror.

ACTIVITIES

SECTION-A

1. To assemble the components of a given electrical circuit.
2. To draw the diagram of a given open circuit comprising at least a battery, resistor rheostat, key ammeter and volt meter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.
3. To assemble a household circuit comprising three, bulbs, three (on/off) switches, a – fuse and a power source.
4. To study the variation in potential drop with length of a wire for a steady current.
5. To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using multimeter.
6. To measure the resistance and impedance of an inductor with or without iron core.
7. To demonstrate
 - (i) The use of an improvised fuse that melts with the flow of a certain current through it and
 - (ii) Different kinds of fuses used in everyday life.
8. To demonstrate that a current measuring device has finite non- zero resistance. (measurement of resistance of an ammeter).
9. To demonstrate that a voltage measuring device has non- infinite resistance (measurement of resistance of an voltmeter).

10. To show that earth's magnetic field has both vertical & horizontal components, by using dip needle.
11. To show the magnetic field lines with the help of iron fillings of bar magnet solenoid.
12. To show the production of induced emf. in a coil due to movement of (i) a magnet towards and away from it (ii) similar coil carrying current towards & away from it.
13. To show that there are two kinds of charges and that like charges repel and unlike charges attract each other.
14. To demonstrate that a large emf is induced when direct current is switched off in an inductive circuit.
15. Make a solenoid for study of its magnetic field.

SECTION-B

1. To identify a diode, an LED, a transistor and IC, a resistor and a capacitor from mixed collection of such items.
2. Use of multimeter to (i) identify base of transistor, (ii) distinguish between npn and pnp type transistors, (iii) see the unidirectional flow of current in case of a diode and an LED. (iv) Check whether a given electronic component (e.g. diode, transistor or IC) is in working order.
3. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
4. To study the nature and size of the image formed by (i) convex lens (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).
5. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.
6. To observe polarization of light using two Polaroids.
7. To observe diffraction of light due to a thin slit.
8. To study effect of intensity of light (by varying distance of the source) on an D.R.

CLASS-XII
47. 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	25%
UNDERSTANDING	31%
APPLICATION	14%
Total	70%

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 around 20%

UNITWISE DISTRIBUTION OF MARKS

SR.NO	UNIT	TOTAL MARK
1	Solid state	06
2	Solutions	05
3	Electro-chemistry	04
4	Chemical-kinetics	03
5	Surface chemistry	04
6	General principles & process of isolation of elements	02
7	p-block elements	10
8	d & f-block elements	08
9	Coordination number	02
10	Haloalkanes & Haloarenes	06
11	Alcohol, Phenols & Ether	05
12	Aldehyde, Ketons & Carboxylic acids	05
13	Organic compounds containing Nitrogen compounds	03
14	Biomolecules	03
15	Polymers	02
16	Chemistry in everyday life	02
	TOTAL QUESTIONS & TOTAL MARKS	T.Q=26 T.M=70

Total Question in paper =26

SCHEMATIC DISTRIBUTION OF MARKS

Sr. No	UNIT	1 MARK	2 MARK	4 MARK	6 MARK	TOTAL MARK
1	Solid state	-	1	1	-	06
2	Solutions	1	-	1	-	05
3	Electro-chemistry	-	-	1	-	04
4	Chemical-kinetics	1	1	-	-	03
5	Surface chemistry	-	-	1	-	04
6	General principles & process of isolation of elements	-	1	-	-	02
7	p-block elements	-	-	1	1	10
8	d & f-block elements	-	1	-	1	08
9	Coordination number	-	1	-	-	02
10	Haloalkanes & Haloarenes	-	-	-	1	06
11	Alcohol, Phenols & Ether	1	-	1	-	05
12	Aldehyde, Ketons & Carboxylic acids	1	-	1	-	05
13	Organic compounds containing Nitrogen compounds	1	1	-	-	03
14	Biomolecules	1	1	-	-	03
15	Polymers	-	1	-	-	02
16	Chemistry in everyday life	2	-	-	-	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

SYALLBUS (THEORY)

Unit-I: Solid, State

Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea), unit cell in two dimensional and three dimensional lattices, calculation of density of unit cell, packing in solids packing efficiency, voids, number of atoms per unit cell in a cubic unit cell, points defects, electrical and magnetic properties. Band theory of metals, conductors, semiconductors and insulators and n and p type semiconductors.

Unit II: Solutions

Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, colligative properties - relative lowering of vapour pressure, Raoult's Law, elevation of B.P., depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass. Vant Hoff factor.

Unit III: Electrochemistry

Redox reactions; conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis and laws of electrolysis (elementary idea) dry cell-electrolytic cells and Galvanic cells; lead accumulator, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, fuel cells; corrosion. Relation between Gibbs Energy change and EMF of cell.

Unit IV: Chemical Kinetics

Rate of a reaction (average and instantaneous), factors affecting rates of reaction; concentration, temperature, catalyst; order and molecularity of a reaction: rate law and specific rate constant, integrated rate equations and half life (only for zero and first order reactions); concept of collision theory (elementary idea, no mathematical treatment). Activation Energy, Arrhenius equation.

Unit V: Surface Chemistry

Absorption physisorption and chemisorption; factors affecting adsorption of gases on solids; catalysis; homogenous and heterogeneous, activity and selectivity; enzyme catalysis; colloidal state: distinction between true solutions, colloids and suspensions; lyophilic, lyophobic, multimolecular and macromolecular/colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation; emulsion-types of emulsions.

Unit VI: General Principles and Processes of Isolation of Elements

Principles and methods of extraction – concentration, oxidation, reduction electrolytic method and refining; occurrence and principles of extraction of aluminum, copper, zinc and Iron.

Unit VII: p-Block Element

Group 15 elements: General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; nitrogen - preparation, properties and uses; compounds of nitrogen- preparation and properties of ammonia and nitric acids, oxides of nitrogen (structure only); Phosphorous- allotropic forms; compounds of phosphorous preparation and properties of phosphine, halides ($\text{PCl}_3, \text{PCl}_5$) and oxoacids (elementary idea only).

Group 16 elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; dioxygen; preparation, properties and uses; classification of oxides; Ozone. Sulphur - allotropic forms; compounds of sulphur preparation, properties and uses of sulphur dioxide, sulphuric acid, industrial process of manufacture, properties and uses, oxoacids of sulphur (structures only).

Group 17 elements: (General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens; preparation, properties and uses of chlorine and hydrochloric acid, interhalogen compounds, oxoacids of halogens (structures only).

Group 18 elements: General introduction, electronic configuration. Occurrence, trends in physical and chemical properties, uses.

Unit-VIII: d and f Block Elements

General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals-metallic character, ionization, enthalpy, oxidation states, ionic radii, colour, catalytic properties, magnetic properties, interstitial compounds, alloy formation. Preparation and properties of $\text{K}_2\text{Cr}_2\text{O}_7$, and KMnO_4 .

Lanthanoids - electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and consequences.

Actenoids - Electronic configuration, oxidation states.

Unit-IX: Coordination Compounds

Coordination compounds - introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds, bonding; Werner's theory VBT, CFT, Isomerism (structure and stereo) importance of coordination compounds (in qualitative analysis, extraction of metals and biological systems).

Unit-X: Haloalkanes and Haloarenes.

Haloalkanes: Nomenclature, nature of C-X bond, physical and chemical properties, mechanism of substitution reactions, optical rotation.

Halearenes: Nature of C-X bond, substitution reactions (directive influence of halogen for monosubstituted compounds only)

Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.

Unit -XI: Alcohols, Phenols and Ethers

Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only); identification of primary, secondary and tertiary alcohols; mechanism of dehydration, uses, with special reference to - methanol and ethanol.

Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols.

Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.

Unit-XII: Aldehydes, Ketones and Carboxylic Acids

Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, and mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes; uses.

Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

Unit-XIII: Organic compounds containing Nitrogen

Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.

Cyanides and Isocyanides - will be mentioned at relevant places in context.

Dizonium Salts: Preparation, chemical reactions and importance in synthetic organic chemistry.

Unit-XIV: Biomolecules

Carbohydrates - Classification (aldoses and ketoses), monosaccharides (glucose and fructose), oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); importance

Proteins - Elementary idea of amino acids, peptide bond, polypeptides proteins, primary structure, secondary structure, tertiary structure and quaternary structure (qualitative idea only), denaturation of proteins; enzymes.

Vitamins: Classification and functions.

Harmones: Elementary idea (excluding structure)

Nucleic Acids: DNA & RNA

Unit-XV: Polymers

Classification - natural and synthetic, methods of polymerization (addition and condensation), copolymerization. Some important polymers; natural and synthetic like polythene, nylon, polyesters, bakelite, rubber. Biodegradable and Non-Biodegradable Polymers.

Unit-XVI: Chemistry in everyday life :

1. Chemicals in medicines analgesic, tranquilizers, antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamines.

2. Chemicals in food- preservatives, artificial sweetening agents. Elementary idea of antioxidants.

3. Cleansing agents- soaps and detergents, cleansing action.

STRUCTURE OF QUESTION PAPER (PRACTICAL)

Time: 3.00 hrs.

Marks: 20

Volumetric Analysis	6
Mixture Analysis	5
Content based Experiment	5
Class record & viva	4
Total Marks	<hr/> <u>20</u> <hr/>

PRACTICAL SYLLABUS

A. Surface Chemistry

- Preparation of one lyophilic and one lyophobic sol. Lyophilic sol - starch, egg albumin and gum. Lyophobic sol - aluminum hydroxide, ferric hydroxide, arsenious sulphide.
- Study of the role of emulsifying in stabilizing the emulsions of different oils.

B. Chemical Kinetics

- Effect of concentration and temperature on the rate of reaction between sodium thiosulphate and hydrochloric acid.
- Study of reaction rates of any one of the following:-
 - Reaction of iodide ion with hydrogen peroxide at room temperature using different concentration of iodide ions.
 - Reaction between potassium iodate, KIO_3 , and sodium sulphite: (Na_2SO_3) using starch solution as indicator (clock reaction).

C. Thermochemistry: Any one of the following experiments

- Enthalphy of dissolution of copper sulphate or potassium nitrate.
- Enthalphy of neutralization of strong acid (HCl) and strong base (NaOH)

- c. Determination of enthalpy change during interaction (Hydrogen bond formation) between acetone and chloroform.
- D. Electrochemistry:** Variation of cell potential in $Zn/Zn^{2+}||Cu^{2+}/Cu$ with change in concentration of electrolytes ($CuSO_4$ or $ZnSO_4$ at room temperature).
- E. Chromatography**
- Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of R_f values.
 - Separation of constituents present in an inorganic mixture containing two cations only (constituents having wide difference in R_f values to be provided).
- F. Determination of concentration/molarity of $KMnO_4$ solution by titrating it against a standard Solution of:**
- Oxalic acid.
 - Ferrous ammonium sulphate.
(Students will be required to prepare standard solutions by weighing themselves).
- G. Preparation of Inorganic Compounds**
- Preparation of double salt of ferrous ammonium sulphate or potash alum.
 - Preparation of potassium ferric oxalate.
- H. Preparation of Organic Compounds:** Preparation of any two of the following compounds
- Acetanilide
 - Di-benzal acetone
 - p-Nitroacetanilide,
 - Aniline yellow or 2-Naphthol aniline dye.
 - Iodoform
- I. Test for the functional groups present in organic compounds:** Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (primary) groups.
- J. Study of carbohydrates, fats and proteins in pure form and detection of their presence in given food stuffs.**
- K. Qualitative analysis:** Determination of one cation and one anion in a given salt.
- Cations-** Pb^{2+} , Cu^{2+} , As^{3+} , Al^{3+} , Fe^{3+} , Mn^{2+} , Zn^{2+} , Co^{2+} , Ni^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Mg^{2+} , NH_4^+
- Anions-** CO_3^{2-} , S^{2-} , SO_3^{2-} , NO_2^- , NO_3^- , Cl^- , Br^- , I^- , PO_4^{3-} , $C_2O_4^{2-}$, CH_2COO^-
- (Note: Insoluble salts excluded)

PROJECT

Scientific investigations involving laboratory testing and collecting information from other sources.

A few suggested Projects

- Study of presence of oxalate ions in guava fruit at different stages of ripening.

2. Study of quantity of casein present in different samples of milk.
3. Preparation of soyabean milk and its comparison with the natural milk with respect to curd formation, effect of temperature etc.
4. Study of the effect of potassium bisulphate as food preservative under various conditions (temperature, concentration, time etc.)
5. Study of digestion of starch by salivary amylase and effect of PH and temperature on it.
6. Comparative study of the rate of fermentation of following material wheat flour, gram flour, Potato juice, carrot juice etc.
7. Extraction of essential oils present in saunf (aniseed), Ajwain (carum) illaichi (cardamom).
8. Study of common food adulterants in fat, oil, butter, sugar, turmeric powder, chilli powder and pepper.

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

CLASS-XII
48. BIOLOGY

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.
- 2 Question no. 1 to 8 will be of one mark each and all are compulsory.
- 3 Question no. 9 to 16 will be of two marks each and all are compulsory.
- 4 Question no.17 to 23 will be of four marks each. Question no. 17 to 21 are compulsory (one question from each unit) there will be 100% internal choice in question no 22 & 23. Q no.22 from unit III and Q no. 23 will be from unit IV and all are compulsory.
- 5 Question no.24 to 26 are of six marks each. There will be 100% internal choice in there questions be of six marks each. There will be internal choice in these questions.
- 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.

UNIT WISE DISTRIBUTION OF MARKS

Unit	Title	Marks
I	Reproduction	14
II	Genetics & Evolution	16
III	Biology and Human Welfare	13
IV	Biotechnology and its applications	13
V	Ecology and Environment	14
Total Marks		70

SCHEMATIC DISTRIBUTION OF MARKS

Unit	1 mark questions	2 marks questions	4 mark questions	6 mark questions	Total marks
Unit-I	2	1	1	1	14
Unit-II	2	2	1	1	16
Unit-III	1	2	1+1 or 1	-	13
Unit-IV	1	2	1+1 or 1	-	13
Unit-V	2	1	1	1	14
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 of total 26 questions. The paper setter will set questions according to schematic distributions of marks as given in the table.
2. Questions no.1 to 8 are compulsory and are of one mark each.
3. Question no 9-16 are compulsory and are of two marks each.
4. Questions no. 17-23 are of four marks each. Question no 17 to 21 are compulsory and there should be one question from each unit. Whereas question no 22 and 23 will have 100% internal choice. The paper setter will set question no 22 from unit-III and question no 23 from unit IV. Internal choice questions should be from same units.
5. Question No.24 to 26 are of six marks each and there is 100% internal choice in these questions.
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)

I. Reproduction

Reproduction in organisms: Reproduction, a characteristic feature of all organism for continuation of species; Modes of reproduction-Asexual and sexual reproduction; Modes –Binary fission, sporulation, budding, gemmule, fragmentation; vegetative propagation in plants.

Sexual reproduction in flowering plants: Flower structure; Development of male and female gametophytes; Pollination-types, agencies and examples; Outbreedings devices; Pollen-Pistil interaction; Double fertilization; Post fertilization events-Development of endosperm and embryo, Development of seed and formation of fruit; Special modes-apomixis, parthenocarpy, polyembryony; Significance of seed and fruit formation.

Human Reproduction: Male and female reproductive systems; Microscopic anatomy of testis and ovary; Gametogenesis-spermatogenesis & oogenesis; Menstrual cycle; Fertilisation, embryo development upto blastocyst formation, implantation; Pregnancy and placenta formation (Elementary idea); Parturition (Elementary idea); Lactation (Elementary idea).

Reproduction health: Need for reproductive health and prevention of sexually transmitted diseases (STD); Birth control – Need and Methods, Contraception and

Medical Termination Pregnancy (MTP); Amniocentesis; Infertility and assisted reproductive technologies-IVF, ZIFT, GIFT (Elementary ideas for general awareness).

II. Genetics and Evolution

Heredity and variation: Mendelian Inheritance; Deviations from Mendelism-Incomplete dominance, Co-dominance, Multiple alleles and Inheritance of blood groups, Pleiotropy; Elementary idea of polygenic inheritance; Chromosome theory of inheritance; Chromosomes and genes; Sex determination-In humans, birds, honey bee; Linkage and crossing over; Sex linked inheritance – Haemophilia, Colour blindness; Mendelian disorders in humans- Thalassemia; Chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.

Molecular Basis of Inheritance: Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central dogma; Transcription, genetic code, translation; Gene expression and regulation- Lac Operon; Genome and human genome project; DNA finger printing.

Evolution: Origin of life; Biological evolution and evidences for biological evolution (Paleontological, Comparative anatomy, embryology and molecular evidence); Darwin's contribution, Modern Synthetic theory of Evolution; Mechanism of evolution-Variation (Mutation and Recombination) and Natural Selection with examples, types of natural selection; Gene flow and genetic drift; Hardy-Weinberg's principle; Adaptive Radiation; Human evolution.

III. Biology and Human Welfare

Health and Disease: Pathogens; parasites causing human diseases (Malaria, Filariasis, Ascariasis, Typhoid, Pneumonia, common cold, amoebiasis, ring worm); Basic concepts of immunology-vaccines; Cancer, HIV and AID's; Adolescence, drug and alcohol abuse.

Improvement in food production: plant breeding, tissues culture, single cell protein, Biofortification, Apiculture and animal husbandary.

Microbes in human welfare: In household food processing, industrial production, sewage treatment, energy generation and as biocontrol agents and biofertilizers.

IV. Biotechnology and its applications

Principles and process of Biotechnology: Genetic engineering (Recombinant DNA technology).

Application of Biotechnology in health and agriculture: Human insulin and vaccine production, gene therapy; genetically modified organisms- Bt crops; Transgenic Animals; Biosafety issues-Biopiracy and patents.

V. Ecology and environment

Organisms and environment: Habitat and niche; Population and ecological adaptations; Population interactions-mutualism, competition, predation, parasitism; Population attributes-growth, birth rate and death rate, age distribution.

Ecosystems: Patterns, components; productivity and decompositions; Energy flow; Pyramids of number, biomass, energy; Nutrients cycling (carbon and

phosphorous); Ecological succession; Ecological Services-Carbon fixation, pollination, oxygen release.

Biodiversity and its conservation: Concepts of Biodiversity; Patterns of Biodiversity; Importance of Biodiversity; Loss of Biodiversity; Biodiversity conservation; Hotspots, endangered organisms, extinction, Red Data Book, biosphere reserves, National parks and sanctuaries.

Environmental issues: Air pollution and its control; Water pollution and its control; Agrochemicals and their effects; Solid waste management; Radioactive waste management; Greenhouse effect and global warming; Ozone depletion; Deforestation; Any three case studies as success stories addressing environmental issues.

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
<hr/>	
Total	20

SYLLABUS (PRACTICAL)

1. Study of pollen grains on a slide.
2. Study of flowers adapted to pollination by different agencies (wind, insect)
3. Study of pollen germination on a slide.
4. Study and identify stages of gamete development i.e. T.S of testis and T.S of ovary through permanent slides.
5. Study meiosis in Onion bud cell or grasshopper testis through permanent slides.
6. Study of T.S of blastula through permanent slide.
7. Study mendelian inheritance using seeds of different colour/size of any plant.
8. Study prepared pedigree charts of genetic traits such as rolling of tongue, blood groups, window's peak, colour blindness.
9. Exercise on controlled pollination -Emasculation, tagging and bagging.
10. Study analogous and homologous organs in various plants and animals.
11. Collect and study soil from different sites and study them for texture and moisture content.
12. Study the pH and water holding capacity of soil correlate with the kinds of plants found in them.
13. Collect water from different water bodies around you and study them for pH clarity and presence of any living organisms.
14. Study the presence of any suspended particulate matter in air at the two widely different sites.
15. Study of plant population density by quadratic method.
16. Study of plant population frequency by quadrature method.
17. Study of plants and animals found in xerophytes conditions. Comment upon their adaptation ecosystem.
18. Study plants and animals found in aquatic conditions. Comment upon their adaptation ecosystem.

19. To identify common disease causing organisms like Ascaris, Endameba, Plasmodium, ringworm. Comment on symptoms of diseases that they cause through permanent slides or specious.

Information Sources.

Analysis using Bioinformatics, tools.

PRACTICAL

Marks: 20

Time: 3 Hours

List of Experiments

Bacterial transformation using any plasmid.

Multiplication of tobacco by nodal bulb culture.

Data retrieval and database search using internet site NCBI.

Production and estimation of ethanol from microbial culture.

Determination of LCG in Urine (Pregnancy Test).

Isolation of bacterial plasmid DNA and its detection by gel electrophoresis.

Restriction digestion of plasmid DNA and its analysis by gel electrophoresis.

Download a DNA and protein sequence from internal, analysis and comment on it.

Determination of N-terminal of a protein.

Ion-exchange chromatography for proteins.

Reading of DNA sequencing to get and arrive at the sequence.

Project work.