

Punjab School Education Board



Syllabus -XII
Session 2018-19

CONTENTS

Senior Secondary Level

A. Scheme of Studies

B. Compulsory subjects

1. General English
2. General Punjabi
3. Punjabi History and Culture
4. Environmental Education
5. Computer Science

C. Elective Subjects

(a) Humanities Group

6. Punjabi
7. Hindi
8. English
9. Urdu
10. Sanskrit
11. Arabic
12. Persian
13. French
14. German
15. Russian
16. Korean
17. History
18. Economics
19. Mathematics
20. Business Organisation and Management
21. Book –Keeping and Accountancy
22. Political Science
23. Sociology
24. Public Administration
25. Religion
26. Music(Vocal)
27. Gurmat Sangeet
28. Music (Instrumental)
29. Dance (Tabla)
30. Dance
31. Philosophy
32. Education
33. Geography
34. Defence Studies
35. Psychology
36. Home Science
37. Modeling and Sculpture
38. Geometrical Perspective and Architectural Drawing
39. Commercial Art
40. Drawing and Painting
41. History and Appreciation of Art
42. Physical Education and Sport
43. Insurance
44. Rural Development and Environment
45. Media Studies

(b) Science Group

- 46. Physics
- 47. Chemistry
- 48. Biology
- 49. Geology
- 50. Biotechnology
- 51. Computer Application
- 52. Elements of Electronics Engineering

(C) Commerce Group

- 53. Business Studies II
- 54. Accountancy-II
- 55. Business Economics and Quantitative Methods –II
- 56. Fundamental of e- Business

(d) Agriculture Group

- 57. Agriculture

(d) Technical Group

Note:

1. Syllabi of all the subjects of +2 are available on the Board's web site www.pseb.ac.in
2. Provision for opting state language as an elective subject is withdrawn
3. There is no change in the Scheme of Studies of +2.
4. Syllabi for technical group can be obtained from Director, Academics, Punjab School Education Board, Mohali.

**(A) SCHEME OF STUDIES
(ACADEMIC STREAM)
FOR
Senior Secondary (12th Class) Examination**

(a) Compulsory Subjects: Every candidate shall offer the following subjects:

Sr. No.	Subject	Th		Prac		CCE		Total Marks	Min Pass Marks
		Max/Min		Max/Min		Max/Min			
1.	General English	65	22			10	03	75	25
2.	General Punjabi Or Punjab History and Culture	65	22			10	03	75	25
3.	Environmental Education	45	15			05	02	50	17
4.	Computer Science	50	17	40	13	10	03	100	33

***Important Note:** Every candidate shall offer 'Environmental Education and Computer Science' as compulsory subjects. Examination of these subjects will be conducted at the school level. Evaluation also shall be done at school level and result in the form of Grades as shown in the Pass Formula will be sent to the Board and same will be reflected on the Certificate.

Note: 1. A candidate who has passed the Matriculation examination from a Board other than the Punjab School Education Board can have Punjab History and Culture in lieu of the Compulsory Punjabi Subject in the 11th/12th classes. Such students will furnish proof of not having studied Punjabi at the Matric level.

2. A candidate who has passed Matriculation examination from the Punjab School Education Board with 'Punjab History and Culture' as a subject can opt for Punjab History and Culture in lieu of compulsory Punjabi in the 11th and 12th classes.

(b) Elective Subjects:

In addition to the compulsory subjects every candidate shall offer any of the following groups:

- Group I Humanities
- Group II Science
- Group III Commerce
- Group IV Agriculture
- Group V Technical

(c) Additional Subjects:

In addition to three elective subjects offered by a candidate out of the group (only in case of Humanities, Science and Agriculture groups) a student may offer one additional subject from the same group.

HUMANITIES GROUP

Every candidate shall offer any three elective subjects from the following:

Sr. No.	Subject	Th		Prac		CCE		Total Marks	Min Pass Marks
		Max/Min	Max/Min	Max/Min	Max/Min	Max/Min	Max/Min		
1.	Language (anyone)								
i.	Punjabi (Elective)	90	30			10	03	100	33
ii.	Hindi	90	30			10	03	100	33
iii.	English(Elective)	90	30			10	03	100	33
iv.	Urdu	90	30			10	03	100	33
2.	Classical/Foreign Language (anyone)								
ii.	Sanskrit	90	30			10	03	100	33
iii.	Arabic	90	30			10	03	100	33
	Persian	90	30			10	03	100	33
iv.	OR								
v.	French	70	23	20	07	10	03	100	33
vi.	German	70	23	20	07	10	03	100	33
vii.	Russian	70	23	20	07	10	03	100	33
viii	Korean	70	23	20	07	10	03	100	33
3.	History	90	30			10	03	100	33
4.	Economics	90	30			10	03	100	33
5.	Mathematics	90	30			10	03	100	33
6.	Business Organisation & Management	90	30			10	03	100	33
7.	Book Keeping and Accountancy	90	30			10	03	100	33
8.	Political Science	90	30			10	03	100	33
9.	Sociology	90	30			10	03	100	33
10.	Public Administration	90	30			10	03	100	33
11.	Philosophy	90	30			10	03	100	33
12.	Education	90	30			10	03	100	33
13.	Religion	90	30			10	03	100	33
14.	Geography	70	23	20	07	10	03	100	33
15.	Defense Studies	70	23	20	07	10	03	100	33
16.	Psychology	70	23	20	07	10	03	100	33
17.	History and Appreciation of Art	90	30			10	03	100	33
18.	Geometrical Perspective and Architectural Drawing	90	30			10	03	100	33
19.	Rural Development and Environment	90	30			10	03	100	33
20.	Insurance	90	30			10	03	100	33
21	Computer Application	60	20	30	10	10	03	100	33
22.	Agriculture	70	23	20	07	10	03	100	33

23.	Home Science	60	20	30	10	10	03	100	33
24.	Music (Vocal)	60	20	30	10	10	03	100	33
25.	Gurmat Sangeet	60	20	30	10	10	03	100	33
26.	Music (Instrumental)	60	20	30	10	10	03	100	33
27.	Music (Tabla)	60	20	30	10	10	03	100	33
28.	Music (Dance)	60	20	30	10	10	03	100	33
29.	Physical Education & Sports	50	17	40	13	10	03	100	33
30.	Drawing & Painting			90	30	10	03	100	33
31.	Commercial Art			90	30	10	03	100	33
32.	Modeling and Sculpture			90	30	10	03	100	33
33.	Media Studies	70	23	20	07	10	03	100	33

Note: (1) Candidates taking up Home Science as an elective subject may choose atleast one subject from Sociology, Psychology and Economics if they wish to seek admission to higher courses in Home Science.

(2) The syllabus of computer application will be same as prescribed in the Science Group.

(3) The syllabus of Agriculture will be same as prescribed in the Agriculture Group.

Imp. Note :If a candidate wants to appear in a language other than Punjabi, Hindi, English, Sanskrit, Urdu, Arabian, Persian and French, he/she shall have to take prior permission from Director Academics.

SCIENCE GROUP

Every candidate shall offer the following subjects:

Sr. No.	Subject	Th		Prac		CCE		Total Marks	Min Pass Marks
		Max/ Min		Max/ Min		Max/Min			
1.	Physics	70	23	20	07	10	03	100	33
2.	Chemistry	70	23	20	07	10	03	100	33
3.	Biology Or Mathematics	70	23	20	07	10	03	100	33
		90	30						
A candidate can offer an additional subject out of the following:									
I.	Geology	60	20	30	10	10	03	100	33
II.	Geography	70	23	20	07	10	03	100	33
III.	Home Science	60	20	30	10	10	03	100	33
IV.	Agriculture	70	23	20	07	10	03	100	33
V.	Biology Or Mathematics	70	23	20	07	10	03	100	33
		90	30						
VI.	Computer Application	60	20	30	10	10	03	100	33
VII.	Elements of Electronic Engg.	40	13	50	17	10	03	100	33

VIII	Economics	90	30			10	03	100	33
IX.	Biotechnology	60	20	30	10	10	03	100	33

- Note: (i) In addition to three elective subjects offered by a candidate out of Science group a candidate desiring higher studies in Ayurveda, may offer Sanskrit as an additional language. The syllabus of Sanskrit will be the same as prescribed in the Humanities Group.
- (ii) The Syllabi in subjects of Economics, Geography, Home Science and Mathematics will be the same as prescribed in the Humanities Group.
- (iii) The syllabus in the subject of Agriculture will be same as prescribed in the Agriculture Group.

COMMERCE GROUP

Sr. No.	Subject	Th		Prac		CCE		Total Marks	Min Pass Marks
		Max/Min		Max/Min		Max/Min			
1.	Business Studies-II	65	22			10	03	75	25
2.	Accountancy II	50	17	15	05	10	03	75	25
3.	Business Economics & Quantitative Methods-II	65	22			10	03	75	25
4.	Fundamentals of E-Business	50	17	15	05	10	03	75	25

A candidate can also offer an additional subject out of the following:

- (a) Computer Application
(b) Mathematics

Note: (i) All the four Elective subjects i.e. Sr. No. 1 to 4 are compulsory.

- (ii) The syllabus of Computer Application will be the same as prescribed in Science and Humanities Group.

- (iii) The syllabus of Mathematics will be the same as prescribed in Humanities Group.

AGRICULTURE GROUP

Sr. No.	Subject	Th		Prac		CCE		Total Marks	Min Pass Marks
		Max/Min		Max/Min		Max/Min			
1.	Agriculture	70	23	20	07	10	03	100	33
2. & 3. Any two of the following:									
(i)	Physics	70	23	20	07	10	03	100	33
(ii)	Chemistry	70	23	20	07	10	03	100	33
(iii)	Economics	90	30			10	03	100	33
(iv)	Rural Development & Environment	90	30			10	03	100	33
(v)	Geography	70	23	20	07	10	03	100	33
A candidate can offer an additional subject out of the following:									
(a)	Mathematics	90	30			10	03	100	33
(b)	Computer Application	60	20	30	10	10	03	100	33

Note:- The Syllabi in the subjects of Physics, Chemistry and Computer Application will be same as prescribed in the Science Group and that of Geography, Mathematics, Economics and Rural Development & Environment will be the same as in the Humanities Group.

Abbreviations :

Th - Theory

Pr - Practical

CCE - Continuous Comprehensive Evaluation.

Note:- 1 A candidate can offer computer application as an additional subjects also. The syllabus of computer application will be the same as prescribed in Science Group.

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 | (Adapted 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 Reason | 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 Chameleon | 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
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

2. English Grammar and Composition for XI and XII

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

2. 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 ਸੈਂਟਰਾਂ 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। 4×5=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। 1×3=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। 2×4=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**3. PUNJAB HISTORY AND CULTURE****Time: 3 Hrs****Theory: 65 Marks****CCE: 10 Marks****Total: 75 Marks****STRUCTURE OF QUESTION PAPER**

1. All questions are compulsory.

The question paper will comprise of four sections A, B, C and D of 18 questions in total. The question paper will carry:

A. Objective Type Questions: This type will include Question No. 1 to 7 carrying 1 mark each with one word answer/ fill in the blank/ true or false/ multiple choice type questions. **1 × 7 = 7 Marks**

B. Short Answer Type Questions: This type will include 6 questions from Question No. 8 to 13 carrying 3 marks each. Answer to each question should be in about 30- 35 words. **3 × 6 = 18 Marks**

C. Long answer Type Questions: This type will include 5 question from Question No. 14 to 18 will carry 5 marks each with 100% internal choice. Answer to each question should be in about 80-100 words.

5 × 5 = 25 Marks

D. Map Question: There will be one section of map carrying 15 marks (10 marks for 5 places and 5 marks each for explanation)

Note:- For blind candidates alternative questions will be given in lieu of question no. 19 (map).

Note:- All units of the syllabus should be given adequate representation in the question paper.

Syllabus	A Objective Type Questions 1 mark	B Short Answer Type Questions 3 marks	C Long Answer Type Questions 5 marks	D Map question	Total
Part-1 Units I-XI	04	03	03	100% Internal choice	10
Part-2 Unit XII-XXII	03	03	02	5 Places ×2 =10 marks Explanation5×1=5 marks	08
No. of Questions	07	06	05	1	19
Total Marks	07	18	25	15	65

SYALLBUS**PART -A**

1. The Great Mughals and their legacy to the Punjab.
2. Shri Guru Nanak Dev Ji.
3. Successors of Shri Guru Nanak Dev Ji.
4. Banda Singh Bahadur and his Martyrdom.
5. Sikhs became the Masters of the Punjab.

PART-B

1. The Punjab under Maharaja Ranjit Singh.
2. The British occupation of the Punjab.
3. Some Famous Legends of the Punjab:-
 - a. Puraan Bhagat
 - b. Heer Ranjha
 - c. Sohni Mahiwal
4. Classical Literature of the Medieval period.

PART-C

MAP QUESTION TOPICS

1. Banda Singh Bahadur
2. Shri Guru Gobind Singh
3. Maharaja Ranjit Singh
4. First Anglo-Sikh War
5. Second Anglo Sikh war

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 or
Unit-V Environmental Actions	1	1	1	1
Total Maks	5 marks	10 marks	20 marks	10 marks

INSTRUCTIONS FOR PAPER SETTER

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 should 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.
- Problem of stubble and its management (study material upload on website)

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.
- Drugs-ill effects(Part-II) Consequences of use of different drugs, The narcotic drugs and psychotropic substances Act-1985 offences as penalties.(study material uploaded on website)

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.

ਸ੍ਰੇਣੀ-ਬਾਰੂਵੀ
5. ਕੰਪਿਊਟਰ ਸਾਇੰਸ

ਸਮਾਂ : 3 ਘੰਟੇ

ਲਿਖਤੀ : 50 ਅੰਕ
ਸੀ.ਸੀ.ਈ. : 10 ਅੰਕ
ਪ੍ਰਯੋਗੀ : 40 ਅੰਕ
ਕੁੱਲ : 100 ਅੰਕ

ਅਗਵਾਈ ਲੀਹਾਂ (ਲਿਖਤੀ ਪ੍ਰੀਖਿਆ)

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਚਾਰ ਭਾਗਾਂ (ਭਾਗ ਓ, ਭਾਗ ਅ, ਭਾਗ ਏ ਅਤੇ ਭਾਗ ਸ) ਵਿੱਚ ਵੰਡਿਆ ਹੋਵੇਗਾ।
2. ਭਾਗ ਓ ਆਬਜੈਕਟਿਵ ਟਾਇਪ ਹੋਵੇਗਾ ਜਿਸ ਵਿੱਚ 1 ਤੋਂ 6 ਤੱਕ 1-1 ਅੰਕ ਦੇ 6 ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ।
3. ਭਾਗ ਅ ਵਿੱਚ ਪ੍ਰਸ਼ਨ ਨੰ 7 ਤੋਂ 12 ਤੱਕ 2-2 ਅੰਕ ਦੇ 6 ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ।
4. ਭਾਗ ਏ ਵਿੱਚ ਪ੍ਰਸ਼ਨ ਨੰ 13 ਤੋਂ 17 ਤੱਕ 4-4 ਅੰਕ ਦੇ 5 ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ।
5. ਭਾਗ ਸ ਵਿੱਚ ਪ੍ਰਸ਼ਨ ਨੰ 18 ਤੋਂ 19 ਤੱਕ 6-6 ਅੰਕ ਦੇ 2 ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ।
5. ਭਾਗ ਓ, ਅ, ਏ ਅਤੇ ਭਾਗ ਸ ਦੇ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਜ਼ਰੂਰੀ ਹੋਣਗੇ। ਭਾਗ ਏ ਅਤੇ ਸ ਵਿੱਚ ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਦੋ ਜਾਂ ਦੋ ਤੋਂ ਵੱਧ ਭਾਗ ਵੀ ਹੋ ਸਕਦੇ ਹਨ। ਭਾਗ ਸ ਵਿੱਚ ਅੰਦਰੂਨੀ ਛੋਟ ਹੋਵੇਗੀ।

ਲੜੀ ਨੰ	ਅਧਿਆਇ ਦਾ ਨਾਂ	ਕੁੱਲ ਅੰਕ	1 ਅੰਕ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	2 ਅੰਕ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	4 ਅੰਕ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	6 ਅੰਕ ਵਾਲੇ ਪ੍ਰਸ਼ਨ
1.	ਗਿਆਰ੍ਹਵੀਂ ਕਲਾਸ ਦੀ ਦੁਹਰਾਈ	3	1	1		
2.	ਸਟਰਿੰਗ ਫੰਕਸ਼ਨ ਦੀ ਵਰਤੋਂ	6		1	1	
3.	ਯੂਜ਼ਰ ਡਿਫਾਇਨਿਡ ਫੰਕਸ਼ਨਜ਼	7	1	1	1	
4.	ਵਿੰਡੋ ਮੁਵੀ ਮੇਕਰ-1	7	1	1	1	
5.	ਵਿੰਡੋ ਮੁਵੀ ਮੇਕਰ-2	5	1		1	
6.	ਨੈਟਵਰਕਿੰਗ ਸੰਕਲਪ	9	1	1		1
7.	ਲਾਈਬ੍ਰੇਰੀ ਫੰਕਸ਼ਨਜ਼	6		1	1	
8.	ਈ-ਗਵਰਨੈਂਸ	7	1			1
	ਕੁੱਲ ਜੋੜ	50	6	12	20	12

ਪਾਠ ਕ੍ਰਮ (ਲਿਖਤੀ ਪ੍ਰੀਖਿਆ)

ਗਿਆਰ੍ਹਵੀਂ ਕਲਾਸ ਦੀ ਦੁਹਰਾਈ

- ਸੀ ਭਾਸ਼ਾ ਵਿੱਚ ਪ੍ਰੋਗਰਾਮਿੰਗ ਲਈ ਭੂਮਿਕਾ
- ਕਮਪਾਇਲਰ ਨਿਰਦੇਸ਼
- ਐਰੇ :- ਐਰੇ ਵਿੱਚ ਡਾਟਾ ਭਰਨਾ, ਐਰੇ ਦੇ ਮੁੱਲਾਂ ਦੀ ਪਹੁੰਚ ਕਰਨੀ, ਦੋ ਡਾਇਮੈਂਸ਼ਨਲ ਐਰੇ ਦੀ ਡਿਕਲੇਅਰੇਸ਼ਨ
- ਨੈਟਵਰਕਿੰਗ ਸੰਕਲਪ

1. ਸਟਰਿੰਗ ਫੰਕਸ਼ਨ ਦੀ ਵਰਤੋਂ

- ਭੂਮਿਕਾ
- ਡਿਕਲੇਅਰੇਸ਼ਨ ਅਤੇ ਸਟਰਿੰਗ ਵੇਰੀਏਬਲ
- ਪ੍ਰੋਗਰਾਮ ਸਟਰਿੰਗ ਦੀ ਪ੍ਰਿੰਟਿੰਗ ਪ੍ਰਦਰਸ਼ਿਤ ਕਰਨੀ
- ਸਟਰਿੰਗ ਪੜ੍ਹਨਾ ਅਤੇ ਲਿਖਣਾ : ਸਟਰਿੰਗ ਪੜ੍ਹਨਾ, ਸਟਰਿੰਗ ਲਿਖਣਾ, ਮੋਨੀਟਰ ਤੋਂ ਸਟਰਿੰਗ ਪੜ੍ਹਨਾ
- ਸਧਾਰਣ ਇਨਪੁੱਟ ਆਊਟਪੁੱਟ
- ਸਟਰਿੰਗ ਉਪਰੇਸ਼ਨ : ਸਟਰਕਟ ਫੰਕਸ਼ਨ (strcat () function)
- ਸਟਰਕਮਪ ਫੰਕਸ਼ਨ (strcmp () function)
- ਸਟਰਲਵਰ ਫੰਕਸ਼ਨ (strlwr () function)
- ਸਟਰਰੀਵ ਫੰਕਸ਼ਨ (strrev () function)
- ਸਟਰਅਪਰ ਫੰਕਸ਼ਨ (strupr () function)

ਪ੍ਰੋਗਰਾਮ ਪਰਿਭਾਸ਼ਾ - 1

ਇਕ ਪ੍ਰੋਗਰਾਮ ਸਟਰਿੰਗ ਫੰਕਸ਼ਨਜ਼ ਦੀ ਵਰਤੋਂ ਬਿਨਾਂ ਦੋ ਸਟਰਿੰਗ ਨੂੰ ਕਨਕੇਟੀਨੇਟ (concatenate) ਕਰਨ ਲਈ ਅਤੇ ਇੱਕ ਨਵੀਂ ਸਟਰਿੰਗ ਬਣਾਉਣ ਲਈ।

ਪ੍ਰੋਗਰਾਮ ਪਰਿਭਾਸ਼ਾ - 2

ਇਕ ਪ੍ਰੋਗਰਾਮ ਸਟਰਿੰਗ ਫੰਕਸ਼ਨਜ਼ ਦੀ ਵਰਤੋਂ ਦੇ ਬਿਨਾਂ ਦੋ ਸਟਰਿੰਗਜ਼ ਦੀ ਤੁਲਨਾ ਲਈ।

ਪ੍ਰੋਗਰਾਮ ਪਰਿਭਾਸ਼ਾ - 3

ਇਕ ਪ੍ਰੋਗਰਾਮ ਸਟਰਿੰਗ ਦੀ ਵਰਤੋਂ ਬਿਨਾਂ ਦਿੱਤੇ ਗਏ ਟੈਕਸਟ ਨੂੰ ਉਲਟਾਉਣ ਲਈ।

2. ਯੂਜਰ ਡਿਫਾਇੰਡ ਫੰਕਸ਼ਨ:-

- ਭੂਮਿਕਾ
- ਬਿਲਟ ਇੰਨ ਫੰਕਸ਼ਨ / ਲਾਇਬਰੇਰੀ ਫੰਕਸ਼ਨ ਯੂਜਰ ਡੀਫਾਈਨ ਫੰਕਸ਼ਨਜ਼, ਫੰਕਸ਼ਨਜ਼ ਦੀ ਜ਼ਰੂਰਤ
- ਆਰਗੂਮੈਂਟ ਅਤੇ ਪੈਰਾਮੀਟਰ
- ਕੋਡ ਲਾਈਨ
- ਮਲਟੀਫੰਕਸ਼ਨ ਪ੍ਰੋਗਰਾਮ
- ਫੰਕਸ਼ਨ ਦੀ ਬਣਤਰ
- ਰਿਟਰਨ ਮੁੱਲ ਅਤੇ ਉਹਨਾਂ ਦੇ ਟਾਈਪਸ, ਸਿੱਧੇ ਰਿਟਰਨ
- ਫੰਕਸ਼ਨ ਨੂੰ ਕਾਲ ਕਰਨਾ
- ਫੰਕਸ਼ਨ ਨਾਲ ਆਰਗੂਮੈਂਟ, ਬਗੈਰ ਰਿਟਰਨ ਮੁੱਲ
- ਸਟੋਰੇਜ ਸ਼੍ਰੇਣੀਆਂ
- ਸਟੈਟਿਕ ਵੇਰੀਏਬਲ
- ਐਕਸਟਰਨਲ ਵੇਰੀਏਬਲ
- ਫੰਕਸ਼ਨ ਬਗੈਰ ਆਰਗੂਮੈਂਟ, ਰਿਟਰਨ ਮੁੱਲ ਨਾਲ

3. ਵਿੰਡੋ ਮੂਵੀ ਮੇਕਰ -1

- ਭੂਮਿਕਾ
- ਫਾਈਲ ਦੀਆਂ ਕਿਸਮਾਂ : ਆਡੀਓ ਫਾਈਲ, ਵੀਡੀਓ ਫਾਈਲ, ਪਿਕਚਰ ਫਾਈਲ
- ਕੋਲੈਕਸ਼ਨਜ਼, ਪ੍ਰੋਜੈਕਟ ਅਤੇ ਮੂਵੀਜ਼ ਨੂੰ ਜਾਨਣਾ
- ਸੋਰਸ ਫਾਈਲ
- ਵੀਡੀਓ ਕੈਪਚਰ ਡੀਵਾਈਸਜ਼
- ਆਡੀਓ ਕੈਪਚਰ ਡੀਵਾਈਸਜ਼
- ਕੈਪਚਰ ਡੀਵਾਈਸ ਦੀ ਸੂਚੀ : ਵੈਬ ਕੈਮਰਾ, ਐਨਾਲਾਗ ਕੈਮਰਾ ਜਾਂ ਵੀ. ਸੀ. ਆਰ. (V.C.R) ਦਾ ਐਨਾਲਾਗ ਕੈਪਚਰ (capture) ਕਾਰਡ ਨਾਲ ਜੋੜ
- ਡਿਜੀਟਲ ਵੀਡੀਓ ਕੈਮਰਾ ਜਾਂ ਵੀ.ਸੀ. ਆਰ ਦਾ IEEE 1394 ਪੋਰਟ ਨਾਲ ਜੋੜ, ਮਾਈਕਰੋਫੋਨ ਦਾ ਸਾਉਂਡ ਕਾਰਡ ਜਾਂ ਯੂ. ਐਸ. ਬੀ ਪੋਰਟ ਨਾਲ ਜੋੜ
- ਵਿੰਡੋਜ਼ ਮੂਵੀ ਮੇਕਰ ਇੰਟਰਫੇਸ : ਮੀਨੂੰ ਬਾਰ ਅਤੇ ਟੂਲ-ਬਾਰ, ਪੇਨਜ਼, ਸਟੋਰੀ-ਬੋਰਡ ਜਾਂ ਟਾਈਮ ਲਾਈਨ ਪੇਨਜ਼, ਕੋਲੈਕਸ਼ਨ ਪੇਨ, ਕਾਨਟੈਂਟਸ ਪੇਨ, ਡੀਟੇਲਜ਼, ਥੰਬ ਨੇਲ, ਮੋਨੀਟਰ
- ਸਟੋਰੀਬੋਰਡ : ਸਟੋਰੀ ਬੋਰਡ ਦੀ ਵਰਤੋਂ, ਸਟੋਰੀ ਬੋਰਡ ਦਾ ਨਿਰਮਾਣ
- ਵਿੰਡੋਜ਼ ਮੂਵੀਮੇਕਰ ਦੀ ਵਰਤੋਂ : ਮੂਵੀ ਟਾਸਕ ਪੇਨ, ਵੀਡੀਓ ਕੈਪਚਰ, ਐਡਿਟ ਵੀਡੀਓ, ਫਿਨਿਸ਼ ਵੀਡੀਓ
- ਕੋਲੈਕਸ਼ਨ, ਸਪਲਿਟ ਬਟਨ, ਸਕਰੀਨ ਸ਼ਾਟ ਬਟਨ, ਵੀਡੀਓ ਟਰੈਕ, ਆਡੀਓ ਟਰੈਕ, ਟਾਈਟਲ ਟਰੈਕ
- ਹੈਂਡਜ਼ ਆਨ ਵਿੰਡੋਜ਼ ਮੂਵੀਮੇਕਰ (hands on windows movie maker) : ਨਿਊ ਪ੍ਰੋਜੈਕਟ ਖੋਲ੍ਹਣਾ, ਆਪਣੇ, ਕੰਪਿਊਟਰ ਤੋਂ ਵੀਡੀਓ ਇਮਪੋਰਟ ਕਰਨਾ, ਪਿਕਚਰ ਇੰਪੋਰਟ ਕਰਨਾ
- ਵੀਡੀਓ ਸਕਰੀਨ / ਮੋਨੀਟਰ : ਕਲਿੱਪ ਨੂੰ ਦੇਖਣਾ, ਨਿਊ ਕੋਲੈਕਸ਼ਨ ਬਣਾਉਣਾ, ਆਡੀਓ ਜਾਂ ਵੀਡੀਓ ਨੂੰ ਦੋ ਭਾਗਾਂ ਵਿੱਚ ਵੰਡਣਾ, ਸਪਲਿਟ ਕੀਤੀ ਹੋਈ ਆਡੀਓ ਜਾਂ ਵੀਡੀਓ ਨੂੰ ਜੋੜਨਾ, ਕਲਿੱਪ ਨੂੰ ਕੋਲੈਕਸ਼ਨ ਵਿੱਚ ਕਾਪੀ ਕਰਨਾ, ਇਕ ਵੀਡੀਓ ਤੋਂ ਮੋਨੀਟਰ ਰਾਹੀਂ ਪਿਕਚਰ ਲੈਣੀ

4. ਵਿੰਡੋ ਮੂਵੀ ਮੇਕਰ - 2

- ਭੂਮਿਕਾ
- ਟਾਈਮ-ਲਾਈਨ ਵਿਊ
- ਸਟੋਰੀ ਬੋਰਡ ਵਿੱਚ ਵੀਡੀਓ ਕਲਿੱਪ ਜੋੜਨਾ
- ਸਟੋਰੀ ਬੋਰਡ ਵਿੱਚ ਦੁਬਾਰਾ ਤੋਂ ਤਰਤੀਬ ਵਾਰ ਕਰਨਾ, ਟਾਈਮ ਲਾਈਨ ਦਾ ਪ੍ਰਯੋਗ ਕਰਦੇ ਹੋਏ ਕਲਿੱਪਸ

ਤੋੜਨਾ, ਇਕ ਵੀਡੀਓ ਨੂੰ ਤੋੜਨਾ

- ਕਲਿਪਸ ਦੀ ਟਰੀਮਿੰਗ : ਕਲਿਪਸ ਦੀ ਛੁਟਾਈ ਕਰਨਾ, ਇਕ ਕਲਿਪ ਦੀ ਟਰਿਮ ਜਾਂ ਛਾਂਟੀ ਕਰਨਾ, ਟਰਿਮ ਪੁਆਇੰਟ ਨੂੰ ਸਾਫ਼ ਕਰਨਾ, ਟੁੱਟੇ ਹੋਏ ਵੀਡੀਓ ਕਲਿਪਸ ਨੂੰ ਆਪਸ ਵਿੱਚ ਜੋੜਨਾ, ਮੂਵੀ ਨੂੰ ਐਡਿਟ ਕਰਨਾ, ਵੀਡੀਓ ਟਰਾਂਜਿਸ਼ਨ, ਵੀਡੀਓ ਇਫੈਕਟਸ, ਟਾਈਟਲ ਅਤੇ ਕਰੈਡਿਟਸ, ਵੀਡੀਓ ਟਰਾਂਜਿਸ਼ਨ ਨੂੰ ਲਾਗੂ ਕਰਨਾ, ਵੀਡੀਓ ਇਨਫੈਕਟਸ ਜੋੜਨਾ, ਟਾਈਟਲ ਤੇ ਕਰੈਡਿਟ, ਪ੍ਰੀ-ਵਿਊ ਮੂਵੀ ਟਾਈਟਲ, ਆਡੀਓ ਐਡ ਕਰਨਾ, ਆਡੀਓ ਨੂੰ ਪਿਕਚਰ ਨਾਲ ਅਲਾਈਨ ਕਰਨਾ, ਆਡੀਓ ਕਲਿਪ ਦਾ ਟਾਈਮ ਲਾਈਨ ਵਿਊ, ਐਡਟਿੰਗ ਆਡੀਓ, ਵੀਡੀਓ ਦਾ ਆਡੀਓ ਘੱਟ ਜਾਂ ਵੱਧ ਕਰਨਾ।

5. ਨੈੱਟਵਰਕਿੰਗ ਸੰਕਲਪ

- ਭੂਮਿਕਾ
- ਨੈੱਟਵਰਕਰ ਕੀ ਹੁੰਦਾ ਹੈ; ਨੈੱਟਵਰਕਿੰਗ ਲਈ ਲੋੜ, ਨੈੱਟਵਰਕਿੰਗ ਟਰਮੀਨੋਲੋਜੀ
- ਨੈੱਟਵਰਕ ਦੀਆਂ ਕਿਸਮਾਂ
- ਨੈੱਟਵਰਕ ਟੋਪੋਲੋਜੀ : ਟੋਪੋਲੋਜੀ ਕੀ ਹੁੰਦੀ ਹੈ, ਭੌਤਿਕ ਟੋਪੋਲੋਜੀ ਦੀਆਂ ਮੁੱਖ ਕਿਸਮਾਂ, ਲੀਨੀਅਰ ਬੱਸ ਟੋਪੋਲੋਜੀ, ਸਟਾਰ-ਟੋਪੋਲੋਜੀ, ਟ੍ਰੀ-ਟੋਪੋਲੋਜੀ, ਮੈਸ਼-ਟੋਪੋਲੋਜੀ, ਪਾਰਸ਼ਲ ਮੈਸ਼-ਟੋਪੋਲੋਜੀ
- ਪ੍ਰੋਟੋਕੋਲਜ਼ : ਯੂਨੀਫਾਰਮ ਰਿਸੋਰਸ ਲੋਕੇਟਰ (ਯੂ.ਆਰ.ਐਲ) ਫਾਈਲ ਟਰਾਂਸਫਰ ਪ੍ਰੋਟੋਕੋਲ ਅਤੇ ਹਾਈਪਰਟੈਕਸਟ ਟਰਾਂਸਫਰ ਪ੍ਰੋਟੋਕੋਲ (ਫਾਈਲ ਟਰਾਂਸਫਰ ਪ੍ਰੋਟੋਕੋਲ, ਹਾਈਪਰਟੈਕਸਟ ਟਰਾਂਸਫਰ ਪ੍ਰੋਟੋਕੋਲ), ਪ੍ਰਾਈਵੇਟ ਨੈੱਟਵਰਕਸ
- ਚੈਨਲ ਦੀ ਵਿਚਾਰਧਾਰਾ : ਸੰਚਾਰ ਚੈਨਲ ਕੀ ਹੁੰਦਾ ਹੈ, ਡਾਟਾ ਬਦਲੀ ਦਰ
- ਸੰਚਾਰ ਮਾਧਿਅਮ : ਗਾਈਡਡ ਮੀਡੀਆ, ਅਨਗਾਈਡਡ ਮੀਡੀਆ, ਆਰ.ਐਫ ਪ੍ਰਸਾਰ
- ਨੈੱਟਵਰਕਿੰਗ ਡਿਵਾਇਸ : ਹੱਬ ਅਤੇ ਮੋਡਮ

6. ਲਾਈਬ੍ਰੇਰੀ ਫੰਕਸ਼ਨ:-

- ਫੰਕਸ਼ਨ
- ਸਟਰਲੇਨ ਫੰਕਸ਼ਨ (Strlen ())
- ਸਟਰੇਪੀ ਫੰਕਸ਼ਨ (Strcpy())
- ਸਟਰੀਟ ਫੰਕਸ਼ਨ (Strcat())
- ਸਟਰੈਮਪ ਫੰਕਸ਼ਨ (Strcmp())
- ਗੈਟਚਰ ਫੰਕਸ਼ਨ (getchar())
- ਪੁਟਚਰ ਫੰਕਸ਼ਨ (putchar())
- ਪ੍ਰਿੰਟਐਫ ਫੰਕਸ਼ਨ (Printf())
- ਸਕੈਨਐਫ ਫੰਕਸ਼ਨ (Scanf())
- ਕੋਸ ਫੰਕਸ਼ਨ (Cos())
- ਐਕਸਪ ਫੰਕਸ਼ਨ (Exp())
- ਪੋਵ ਫੰਕਸ਼ਨ (Pow())
- ਸਕਰਟ ਫੰਕਸ਼ਨ (Sqrt())
- ਐਫਮੋਡ ਫ ਫੰਕਸ਼ਨ (fmod())
- ਫੇਬਸ ਫੰਕਸ਼ਨ (Fabs())
- ਸੀਲ ਫੰਕਸ਼ਨ (Ceil ())
- ਫਲੋਰ ਫੰਕਸ਼ਨ (floor())
- ਇਜ਼ਲੋਅਰ ਅਤੇ ਇਜ਼ਅਪਰ ਫੰਕਸ਼ਨ (islower() and isupper())
- ਟੂਲੋਅਰ ਅਤੇ ਟੂਅਪਰ ਫੰਕਸ਼ਨ (tolower()) and (toupper ())
- ਫੰਕਸ਼ਨ ਦੇ ਲਾਭ

7. ਈ-ਗਵਰਨੈਂਸ (e-Governance)

- ਈ-ਗਵਰਨੈਂਸ ਦਾ ਪ੍ਰਯੋਗ:
- ਘੱਟ ਖਰਚ, ਤੇਜ ਰਫਤਾਰ, ਕਿਤੇ ਵੀ ਕਿਸੇ ਵੀ ਟਾਇਮ, ਆਸਾਨ ਪ੍ਰਬੰਧ
- ਈ-ਗਵਰਨੈਂਸ ਦੇ ਅੱਲਗ-ਅੱਲਗ ਖੇਤਰ: ਇੰਟਰਨੈੱਟ ਬੈਂਕਿੰਗ, ਆਨ-ਲਾਈਨ ਰੇਲਵੇ ਅਤੇ ਹਵਾਈ ਟਿਕਟਿੰਗ, ਆਈ-ਟਿਕਟਿੰਗ, ਈ-ਟਿਕਟਿੰਗ, ਪਾਸਪੋਰਟ ਸੇਵਾਵਾਂ
- ਸੁਵਿਧਾ ਸੈਂਟਰ

ਕੰਪਿਊਟਰ ਸਾਇੰਸ
ਅਗਵਾਈ ਲੀਹਾਂ (ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਆ)

ਸਮਾਂ : 3 ਘੰਟੇ

ਅੰਕ: 40

ਪ੍ਰੀਖਿਆ ਲਈ ਅੰਕ ਵੰਡ ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਹੋਵੇਗੀ:

- | | | | |
|--|-------------|---------------|----|
| | ਸੈਕਸ਼ਨ - ਏ | ਵਾਇਵਾ- ਵੋਸ | 10 |
| | ਸੈਕਸ਼ਨ - ਬੀ | ਰਿਕਾਰਡ ਫਾਇਲ | 10 |
| | ਸੈਕਸ਼ਨ - ਸੀ | ਛੋਟੇ ਪ੍ਰੋਗਰਾਮ | 20 |
1. ਸੈਕਸ਼ਨ - ਏ ਵਿੱਚ ਪ੍ਰੀਖਿਆਰਥੀ ਤੋਂ ਪਾਠ ਕ੍ਰਮ ਵਿੱਚੋਂ ਪੰਜ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਪ੍ਰਸ਼ਨ ਦੋ ਦੋ ਅੰਕ ਦਾ ਹੋਵੇਗਾ। ਇਹ ਪ੍ਰਸ਼ਨ ਓਬਜੈਕਟਿਵ ਟਾਈਪ ਜਾਂ ਵਿਆਖਿਆ ਦੱਸਣੀ ਜਾਂ ਕੰਪਿਊਟਰ ਦੇ ਵੱਖ ਵੱਖ ਹਿੱਸਿਆਂ ਅਤੇ ਇਸ ਨਾਲ ਜੁੜੇ ਸਹਾਇਕਾਂ ਦੇ ਬਹੁਤ ਛੋਟੇ ਅਭਿਆਸ ਹੋਣਗੇ। 5×2=10 ਅੰਕ
 2. ਸੈਕਸ਼ਨ - ਬੀ ਵਿੱਚ ਪ੍ਰੀਖਿਆਰਥੀ ਦਾ ਸਲਾਨਾ ਰਿਕਾਰਡ ਚੈਕ ਕੀਤਾ ਜਾਵੇਗਾ। 10 ਅੰਕ
 3. ਸੈਕਸ਼ਨ - ਸੀ ਵਿੱਚ ਪੰਜ ਪ੍ਰਸ਼ਨ /ਪ੍ਰੋਗਰਾਮ ਸੈੱਟ ਕੀਤੇ ਜਾਣਗੇ ਜਿਨ੍ਹਾਂ ਵਿੱਚੋਂ ਪ੍ਰੀਖਿਆਰਥੀ ਨੂੰ ਚਾਰ ਪ੍ਰੋਗਰਾਮ / ਪ੍ਰਸ਼ਨ ਕਰਨ ਦੀ ਖੁੱਲ੍ਹ ਹੋਵੇਗੀ। ਹਰ ਪ੍ਰੋਗਰਾਮ/ਪ੍ਰਸ਼ਨ ਪੰਜ ਪੰਜ ਅੰਕਾਂ ਦਾ ਹੋਵੇਗਾ, ਹਰੇਕ ਪ੍ਰੋਗਰਾਮ/ ਪ੍ਰਸ਼ਨ ਲਈ ਅੰਦਰੂਨੀ ਅੰਕ ਵੰਡ ਪੇਪਰ ਸੈੱਟਰ ਕਰਕੇ ਦੇਵੇਗਾ। 4×5=20 ਅੰਕ

ਪਾਠ ਕ੍ਰਮ (ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਆ)

1. ਸਟਰਿੰਗ ਫੰਕਸ਼ਨ ਦੀ ਵਰਤੋਂ
 - ਸਟਰਿੰਗ ਫੰਕਸ਼ਨ : ਡੇਕਲੇਰੇਸ਼ਨ, ਇਨਿਸ਼ਿਅਲਾਈਜ਼ੇਸ਼ਨ
 - ਪ੍ਰੋਗਰਾਮ ਸਟਰਿੰਗ ਦੀ ਪ੍ਰਿੰਟਿੰਗ ਪ੍ਰਦਰਸ਼ਿਤ ਕਰਨੀ
 - ਸਟਰਿੰਗ ਪੜ੍ਹਨਾ ਅਤੇ ਲਿਖਣਾ
 - ਸਾਧਾਰਣ ਇੰਪੁਟ / ਆਊਟਪੁੱਟ ਗੈਟਚਰ, ਪੁੱਟਚਰ, ਪ੍ਰਿੰਟਐਫ (I/O getchar(), putchar(), printf())
 - ਸਟਰਿੰਗ ਐਪਰੇਸ਼ਨ (string.h)
2. ਯੂਜ਼ਰ ਡਿਫਾਇੰਡ ਫੰਕਸ਼ਨਜ਼
 - ਬਿਲਟ-ਇਨ ਫੰਕਸ਼ਨਜ਼/ਲਾਈਬ੍ਰੇਰੀ ਫੰਕਸ਼ਨਜ਼
 - ਆਰਗੂਮੈਂਟਸ ਅਤੇ ਪੈਰਾਮੀਟਰਜ਼
 - ਕੋਡ ਲਾਈਨ
 - ਮਲਟੀਫੰਕਸ਼ਨ
 - ਫੰਕਸ਼ਨ ਦੀ ਬਣਤਰ
 - ਫੰਕਸ਼ਨ ਨੂੰ ਕਾਲ ਕਰਨਾ
3. ਵਿੰਡੋ ਮੂਵੀ ਮੇਕਰ-1
 - ਆਡੀਓ-ਵੀਡੀਓ ਫਾਈਲ
 - ਪ੍ਰੋਜੈਕਟ, ਮੂਵੀ, ਕੈਪਚਰਿੰਗ, ਸਪਲਿਟਿੰਗ
4. ਵਿੰਡੋ ਮੂਵੀ ਮੇਕਰ-2
 - ਟਾਈਮ ਲਾਈਨ ਵਿਊ
 - ਪ੍ਰੋਜੈਕਟ ਨੂੰ ਚਲਾਉਣਾ
 - ਟ੍ਰੀਮਿੰਗ
 - ਐਡਿਟਿੰਗ
 - ਵੀਡੀਓ ਟਰਾਂਜਿਸ਼ਨ
 - ਵੀਡੀਓ ਇਫੈਕਟ
 - ਵੀਡੀਓ ਟਾਈਟਲ
 - ਵੀਡੀਓ ਕਰੈਟਿਡ
 - ਵੀਡੀਓ ਪ੍ਰੀਵਿਊ
5. ਲਾਈਬ੍ਰੇਰੀ ਫੰਕਸ਼ਨਜ਼
 - ਫੰਕਸ਼ਨ
 - ਸਟਰਲੇਨ ਫੰਕਸ਼ਨ (Strlen ())
 - ਸਟਰੋਪੀ ਫੰਕਸ਼ਨ (Strcpy())
 - ਸਟਰੀਟ ਫੰਕਸ਼ਨ (Strcat())
 - ਸਟਰੈਮਪ ਫੰਕਸ਼ਨ (Strcmp())
 - ਗੈਟਚਰ ਫੰਕਸ਼ਨ (getchar())
 - ਪੁੱਟਚਰ ਫੰਕਸ਼ਨ (putchar())
 - ਪ੍ਰਿੰਟਐਫ ਫੰਕਸ਼ਨ (Printf())

- ਸਕੈਨਐਂਡ ਫੰਕਸ਼ਨ (Scanf())
- ਕੋਸ ਫੰਕਸ਼ਨ (Cos())
- ਐਕਸਪ ਫੰਕਸ਼ਨ (Exp())
- ਪੋਵ ਫੰਕਸ਼ਨ (Pow())
- ਸਕਰਟ ਫੰਕਸ਼ਨ (Sqrt())
- ਐਫਮੋਡ ਫੰਕਸ਼ਨ (fmod())
- ਫੇਬਸ ਫੰਕਸ਼ਨ (Fabs())
- ਸੀਲ ਫੰਕਸ਼ਨ (Ceil ())
- ਫਲੋਰ ਫੰਕਸ਼ਨ (floor())
- ਇਜ਼ਲੋਅਰ ਅਤੇ ਇਜ਼ਅਪਰ ਫੰਕਸ਼ਨ (islower() and isupper())
- ਟੂਲੋਅਰ ਅਤੇ ਟੂਅਪਰ ਫੰਕਸ਼ਨ (tolower()) and (toupper ())
- ਫੰਕਸ਼ਨ ਦੇ ਲਾਭ

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 ਸ਼੍ਰੇਣੀਵਨੀਆਂ ਵਿੱਚੋਂ ਲਏ ਅੰਸ਼	22
3.	ਸਾਹਿਤ ਰੂਪ:- ਕਵਿਤਾ, ਨਿਬੰਧ, ਨਾਵਲ, ਨਿੱਕੀ ਕਹਾਣੀ, ਜੀਵਨੀ, ਸ਼੍ਰੇਣੀਵਨੀ, ਸਫ਼ਰਨਾਮਾ	13
4.	ਛੰਦ, ਅਲੰਕਾਰ, ਰਸ	15
ਕੁੱਲ ਅੰਕ		90

ਅਧਿਆਪਕਾਂ, ਵਿਦਿਆਰਥੀਆਂ, ਪੇਪਰ ਸੈੱਟਰਾਂ 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, ਖ਼ਾਲੀ 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 ਸ਼੍ਰੇਣੀਵਨੀ ਅੰਸ਼ ਦੇ ਲੇਖਕ ਸੰਬੰਧੀ/ਲੇਖਕ ਦੇ ਸ਼੍ਰੇਣੀਵਨੀ ਅੰਸ਼ ਸੰਬੰਧੀ ਅਤੇ ਦੂਜਾ ਪ੍ਰਸ਼ਨ ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚ ਨਿਰਧਾਰਿਤ ਪਾਠ ਸਮਗਰੀ 'ਤੇ ਆਧਾਰਿਤ ਹੋਵੇਗਾ।
- (ੲ) **ਸਾਹਿਤ-ਬੋਧ:-** 4 ਅੰਕ, ਇੱਕ ਪ੍ਰਸ਼ਨ ਸਾਹਿਤ-ਰੂਪ ਨਾਲ਼ ਸੰਬੰਧਿਤ, ਇੱਕ ਪ੍ਰਸ਼ਨ ਅਲੰਕਾਰ ਨਾਲ਼, ਇੱਕ ਪ੍ਰਸ਼ਨ ਛੰਦ ਨਾਲ਼ ਅਤੇ ਇੱਕ ਪ੍ਰਸ਼ਨ ਰਸ ਨਾਲ਼ 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' ਨਾਲ਼ 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 ਸੱਤ 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 ਛੰਦ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਬਾਰੇ ਉਦਾਹਰਨਾਂ ਸਹਿਤ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ।

4 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 8 'ਸਾਹਿਤ-ਬੋਧ' ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚੋਂ ਦੋ ਅਲੰਕਾਰ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਬਾਰੇ ਉਦਾਹਰਨਾਂ ਸਹਿਤ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ।

4 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਨੰ: 9 'ਸਾਹਿਤ-ਬੋਧ' ਪਾਠ-ਪੁਸਤਕ ਵਿੱਚੋਂ ਦੋ ਰਸ ਦੇ ਕੇ ਕਿਸੇ ਇੱਕ ਬਾਰੇ ਉਦਾਹਰਨਾਂ ਸਹਿਤ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ।

4 ਅੰਕ

ਨਿਰਧਾਰਿਤ ਪਾਠ-ਪੁਸਤਕਾਂ :-

1. ਮੱਧ-ਕਾਲੀਨ ਪੰਜਾਬੀ-ਕਾਵਿ (ਝਲਕਾਂ ਤੇ ਇਤਿਹਾਸ)
2. ਆਪ-ਬੀਤੀਆਂ
3. ਸਾਹਿਤ-ਬੋਧ

ਪ੍ਰਕਾਸ਼ਕ: ਪੰਜਾਬ ਸਕੂਲ ਸਿੱਖਿਆ ਬੋਰਡ।

7. HINDI

पाठ्यक्रम :

कक्षा : बारहवीं 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-12)	35
भाग-ग -हिंदी साहित्य का इतिहास (ऐतिहासिक 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)

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

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 King's Warrant
4. The Man Who Wouldn't Go to Heaven
5. 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.

CLASS-XII

9. URDU

SYLLABUS OF URDU ELECTIVE	
CLASS 12th	
نصابی کتاب:	گھنٹان ادب: (پارہویں جماعت کیلئے اردو کی وکی کتاب) شائع کردہ، NCERT NEW DELHI
کندہ کی کتاب:	گلدستہ: سفاہین و انشاء پر داری حصہ دوم از ڈاکٹر محمد عارف خاں شائع کردہ: ایچ کیو کینٹنل بک ہاؤس علی گڑھ
نوٹ: درج ذیل اسباق اور شعری تعلقات نصاب میں شامل نہیں ہیں۔	
حصہ شہر	حصہ نظم
1- خرمی۔ ایک مطالعہ	1- اول شب و بزم کی رونق، پروانہ بعض
2- امر اوجان ادا	2- زمان، مکان تھے مرے ماننے کھرتے ہوئے
3- میں، وہ	3- ارتقاء
4- اس آباد خرابے میں (انتخاب)	4- یادِ مگر
5- غالب جدید شعراء کی ایک مجلس میں	5- وقت کا ترانہ
6- کلیم الدین احمد	
تحریری پرچہ نمبر: 90	وقت 3 گھنٹے
داخلی تعین نمبر: 10	
کل نمبر 100	
I- پانچ مختصر لازمی سوالات کے جوابات تحریر کرنا۔	5x2=10
II- سیاق و سباق کے حوالے سے تین دینے گئے نثر پاروں میں سے کسی دو کی آسان اردو میں تشریح۔	5x2=10
III- نصاب میں شامل اسباق میں سے کسی ایک کا خلاصہ لکھنا۔	10
IV- درج ذیل اصناف میں سے کسی ایک پر نوٹ لکھنا۔	7
رپورتاژ، انشائیہ، سفر نامہ	
V- مندرجہ ذیل نثر نگاروں میں سے کسی ایک کے حالات زندگی اور ادبی خدمات پر نوٹ لکھنا۔	10
اقبال مجید، سجاد ظہیر، کرشن چندر، خواجہ حسن نظامی، رام لعل	

- VI - دیئے گئے آٹھ اشعار میں سے کسی پانچ کی تشریح لکھنا۔
10
- VII - درج ذیل شعراء میں سے کسی ایک شاعر کے حالات زندگی اور شاعری پر نوٹ لکھنا۔
10
- لظم طہا طہانی، اقبال، ن۔ م۔ راشد، علی سردار جعفری، عمیق حسنی،
جاں نثار اختر، ناصر کاظمی، معین احسن بھٹی، الطاف حسین حالی
- VIII - کسی ایک لظم کا مرکزی خیال بیان کرنا۔
8
- IX - دیئے گئے آٹھ الفاظ میں سے کسی پانچ کے معانی تحریر کرنا۔
5
- X - دیئے گئے چار عنوانات میں سے کسی ایک عنوان پر 250 الفاظ کا مضمون تحریر کرنا۔
10

طلباء، پرچہ بنانے والوں اور امتحان لینے والوں کیلئے ضروری ہدایات:

- سوال نمبر I - یہ سوال تمام نصاب پر مشتمل ہوگا۔ اس میں پانچ مختصر سوالات پوچھے جائیں گے ہر سوال کیلئے دو نمبر ہوں گے۔
10
- سوال نمبر II - سیاق و سباق کے حوالے سے نصابی اسباق میں سے دیئے گئے تین ستر پاروں میں سے کسی دو کی آسان اردو میں تشریح کرنا ہوگی۔ نمبر کی تقسیم اس طرح ہوگی: سبقت کا نام ایک نمبر، ستر نگار کا نام ایک نمبر، آسان اردو میں تشریح تین نمبر دونوں ستر پارے دس نمبروں کے ہوں گے۔
10
- سوال نمبر III - نصاب میں شامل کسی ایک سبق کا خلاصہ کیلئے 10 نمبر رکھے گئے ہیں۔
10
- سوال نمبر IV - ریورٹاژ، انشائیہ اور سفر نامہ میں سے کسی ایک کا مختصر تعارف کرانے کیلئے 7 نمبر رکھے گئے ہیں۔
7
- سوال نمبر V - نصاب میں شامل کسی ایک ستر نگار کے سوانحی تعارف پیش کرنے کیلئے 10 نمبر ہوں گے۔
10
- سوال نمبر VI - دیئے گئے آٹھ اشعار میں سے کسی پانچ اشعار کی تشریح کرنا ہوگی، ہر ایک شعر کیلئے دو نمبر ہوں گے۔
10
- سوال نمبر VII - کسی ایک شاعر کے حالات زندگی اور شاعری کو مختصر بیان کرنے کیلئے 10 نمبر ہوں گے۔
10
- سوال نمبر VIII - نصاب کی نظموں میں سے کسی ایک کا مرکزی خیال تحریر کرنے کے 8 نمبر ہوں گے۔
8
- سوال نمبر IX - نصابی کتاب میں سے دیئے گئے آٹھ الفاظ میں سے پانچ کے معانی تحریر کرنے ہوں گے، ہر ایک معانی کیلئے ایک نمبر ہوگا۔
5
- سوال نمبر X - مضمون نوٹس کیلئے دس نمبر رکھے گئے ہیں، آغاز کیلئے تین نمبر، نفس مضمون کیلئے چار نمبر، اختتام کیلئے تین نمبر رکھے گئے ہیں۔
10

(10/10)

10. विषय : संस्कृत

कक्षा : बारहवीं

पाठ्यक्रम 2018-19

- प्रश्नपत्र में कुल 11 प्रश्न होंगे।
- प्रश्न पत्र में तीन भाग (क से ग तक) होंगे ।

भाग - क

अति लघूत्तर प्रश्न (वस्तुनिष्ठ प्रश्न)

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 उत्तरों वाले अथवा हाँ/नहीं अथवा सही/गलत अथवा बहुवैकल्पिक उत्तरों वाले, किसी भी प्रकार के हो सकते हैं । यह प्रश्न पाठ्यक्रम से ही पूछे जायें।

(i) से (ii) तक शब्द रूप (पुल्लिंग ,स्त्री लिंग तथा नपुंसकलिंग) से सम्बन्धित दो वस्तुनिष्ठ प्रश्न पूछे जायेंगे ।

(iii) से (iv) तक धातुरूप (लटलकार, लोटलकार, लङलकार , विधिलिङ्, लृटलकार) से सम्बन्धित दो वस्तुनिष्ठ प्रश्न पूछे जायेंगे ।

(v) से (vi) तक समास तत्पुरुष (सप्तमी विभक्त तक) नञ्, अलुक् से सम्बन्धित दो वस्तुनिष्ठ प्रश्न पूछे जायेंगे

(vii) से (viii) तक कृदन्त प्रत्यय से सम्बन्धित दो वस्तुनिष्ठ प्रश्न पूछे जायेंगे

(ix) से (x) तक अलंकार से सम्बन्धित दो वस्तुनिष्ठ प्रश्न पूछे जायेंगे

भाग -ख	
(पाठ्य पुस्तक के 1 से 19 तक पाठ)	
2	गद्यांशों का हिन्दी या पंजाबी या अंग्रेज़ी में अनुवाद ।
3	पद्यों का हिन्दी या पंजाबी या अंग्रेज़ी में प्रसंग सहित अर्थ ।
4	पाठों के अभ्यासों में से हिन्दी में प्रश्न ।
5	पाठों के अभ्यासों में से संस्कृत लघु प्रश्न ।
6	पाठों के अभ्यासों में से संस्कृत शब्दों का वाक्यों में प्रयोग । अथवा व्यावहारिक संस्कृत शब्दों का हिन्दी में अनुवाद ।
7	पाठों के अभ्यासों में से यथानिर्दिष्ट परिवर्तन ।
8	प्राचीन लेखकों/कवियों का साहित्यिक परिचय ।
भाग-ग (व्याकरण भाग)	
9	(क) शब्द रूप : (पु.) गो, पितृ , राजन् , चन्द्रमस् , । (नपुं.) मित्र, अक्षि, पयस् । (स्त्री.) बाला, स्त्री, वधू, ।
	(ख) धातु रूप : (लटलकार, लोट, लङ्, विधिलिङ्, लृटलकार) भ्वादिगण : (परस्मैपद) भू , व्रज्, खाद्, घ्रा । अदादिगण : (प.) अस् , हन् । चुरादिगण : (प.) दण्ड् । तनादिगण : (प.) कृ ।

	क्यादिगण : (प.) ज्ञा , ग्रह् ।
	(ग) कारक : अशुद्ध- शुद्ध वाक्यों पर आधारित ।
10	(क) समास : तत्पुरुष (सप्तमी विभक्ति तक) नञ्, अलुक् । (ख) प्रत्यय: कृदन्त प्रत्यय- तव्यत्, अनीयर्, यत्, ल्युट्, तुमुन् ।
	(ग) अलंकार: और छंद - (i) शब्दालंकार - अनुप्रास, यमक। (ii) अर्थालंकार - रूपक, उत्पेक्षा, उपमा, अर्थान्तरन्यास। अथवा छन्द :- अनुष्टुप्, वंशस्थ, मालिनी, शिखरिणी, पंचचामरम्, वसन्ततिलका ।
11	निबन्ध : नीचे लिखे विषयों पर संस्कृत में सरल निबन्ध (लगभग 100 शब्दों में) सत्संगति, परोपकारः, आदर्श - छात्रः, मम प्रिय- पुस्तकम्, कश्चिद् महापुरुषः, कश्चिद् उत्सवः, समाचार पत्राणां लाभाः।
	अथवा
	हिन्दी वाक्यों का संस्कृत में अनुवाद ।(1 से 15 अभ्यास तक) निर्धारित पाठ्य पुस्तक : संस्कृत सौरभम्- 12 पंजाब स्कूल शिक्षा बोर्ड द्वारा प्रकाशित

विषय : संस्कृत
बारहवीं श्रेणी
प्रश्न- पत्र की रूपरेखा

समय : 3 घण्टे

कुल अंक : 90
सी. सी. ई : 10

भाग क

1 अति लघूत्तर प्रश्न (वस्तुनिष्ठ प्रश्न)

1x10=10

भाग ख
(पाठ्य पुस्तक)

- 2 तीन गद्यांश दिए जाएं जिनमें से दो का अनुवाद हिन्दी या पंजाबी या अंग्रेज़ी में करने को कहा जाए । 5x2=10
- 3 तीन पद्य दिए जाएं जिनमें से दो का प्रसंग सहित अर्थ हिन्दी या पंजाबी या अंग्रेज़ी में लिखने को कहा जाए।दो अंक प्रसंग के तीन अंक अर्थ के निधारित है 5x2=10
- 4 पाठों के अभ्यासों में से पांच प्रश्न हिन्दी में पूछे जाएं, जिनमें से तीन का उत्तर हिन्दी में लिखने को कहा जाए । 3x2=6
- 5 पाठों के अभ्यासों में से संस्कृत में पांच लघु प्रश्न दिए जाएं । जिनमें से तीन का उत्तर संस्कृत में लिखने को कहा जाए। 3x2=6
- 6 पाठों के अभ्यासों में से छः संस्कृत शब्द दिए जाएं जिनमें से चार शब्दों का वाक्यों में प्रयोग करने को कहा जाए।

अथवा

- आठ व्यावहारिक संस्कृत शब्द दिए जाएं जिनमें से चार शब्दों का हिन्दी में अनुवाद करने को कहा जाए। 1x4=4
- 7 यथानिर्दिष्ट परिवर्तन के छः वाक्य दिए जाएं जिनमें से चार वाक्यों में परिवर्तन करने को कहा जाए। 1 x4=4
- 8 प्राचीन लेखकों/कवियों के साहित्यिक परिचय से संबंधित सात प्रश्न पूछे जाएं जिनमें से पाँच का उत्तर लिखने को कहा जाए । 1 x5=5

भाग=ग (व्याकरण भाग)

- 9 (क) पाठ्यक्रम में दिए गये शब्द रूपों में से छः शब्दों के रूप किसी एक विभक्ति के तीनों वचनों में पूछे जायें जिनमें से केवल चार शब्दों के रूप लिखने हों । 4x1½=6
- (ख) पाठ्यक्रम में दिए गये धातु रूपों में से छः धातुओं के रूप किसी एक लकार के एक पुरुष के तीनों वचनों में पूछे जायें जिनमें से केवल चार धातुओं के रूप लिखने हों । 4x1½=6
- (ग) कारक सम्बन्धी अशुद्धि वाले सात वाक्य दिये जायें जिनमें से पाँच वाक्यों को शुद्ध करने को कहा जाये । 5x1=5
- 10 (क) पाठ्यक्रम में दिए गए समासों से संबंधित पाँच समस्त पद दिए जाएं जिनमें से तीन का विग्रह करने को कहा जाए । 3x1=3
- (ख) पाठ्यक्रम में दी गई धातुओं के साथ प्रत्यय लगाने के लिए पाँच धातुएं तथा प्रत्यय दिए जाएं जिनमें से तीन करने को कहा जाए । 3x1=3
- (ग) पाठ्यक्रम में दिए भेद रहित अलंकारों से संबंधित चार प्रश्न दिए जाएं जिनमें

से दो शब्दालंकार तथा दो अर्थालंकार हों तो उचित है । चार अलंकारों में से केवल दो की परिभाषा तथा उदाहरण लिखने अपेक्षित हो । परिभाषा तथा उदाहरण का एक-एक अंक निश्चित है ।

2x2=4

अथवा

पाठ्यक्रम में निश्चित छंदों से संबंधित चार प्रश्न दिए जाएं जिनमें से दो मात्रिक तथा दो वर्णिक छंद हों तो उचित है । चार छंदों में से केवल दो की परिभाषा तथा उदाहरण लिखने अपेक्षित हो परिभाषा तथा उदाहरण का एक-एक अंक निश्चित है ।

- 11 पाठ्यक्रम में निश्चित तीन निबंध देकर किसी एक विषय पर लगभग 100 शब्दों में निबंध लिखने को कहा जाए ।

अथवा

8

13 हिन्दी वाक्य दिए जाएं जिनमें से आठ वाक्यों का संस्कृत में अनुवाद करने को कहा जाए ।

CLASS-XII
11. ARABIC

Syllabus of Arabic

Class XII

سفارش کردہ کتاب: منہاج العربیہ جزو رابع مرتبہ سید نبی حیدر آبادی

نصاب میں شامل دروس (1 سے 25 تک)

نظم (1 سے 5 تک)

تحریری پرچہ نمبر:	90
داعلیٰ تعین نمبر:	10
کل نمبر	100

نوٹ: پہلا سوال لازمی ہے۔ دیئے گئے پانچ مختصر سوالات کے جوابات تحریر کیجئے۔ $3 \times 5 = 15$

مختصر سوالات تم نصاب پر مشتمل ہوں گے۔

- (15) II۔ عربی سے اردو میں ترجمہ کرنا۔
- (10) III۔ عربی الفاظ کے معانی تحریر کرنا۔
- (10) IV۔ عربی اشعار کی تشریح کرنا۔ (نظموں کے اسباق سے)
- (15) V۔ کسی ایک نظم کا مرکزی خیال بیان کرنا۔
- (15) VI۔ اردو سے عربی کا ترجمہ کرنا۔
- (5) VII۔ ماضی سے مضارع اور مضارع سے ماضی بنانا۔
- (5) VIII۔ عربی میں دس تک عدد لکھنا۔

Syllabus of Persian

Class XII

سفارش کرد کتاب: کتاب فارسی تالیف دکتر زہرا می خاٹری، اور ڈاویات رتی، قاسم جان اشرفی، دوتی۔

نصاب میں شامل اسباق: اسباق نمبر 8, 21, 22, 23, 24, 25, 28, 30, 31, 32

وقت 3 گھنٹے

تحریری پرچہ نمبر: 90

داخلی تعین نمبر: 10

کل نمبر 100

نوٹ: پہلا سوال لازمی ہے۔ دیئے گئے پانچ مختصر سوالات کے جوابات تحریر کیجئے۔ $3 \times 5 = 15$

مختصر سوالات تمام نصاب پر مشتمل ہوں گے۔

(15) II۔ اسم حالیہ، اسم آلہ اور اسم ظرف کی مثالوں کے ساتھ تعریف کرنا۔

(15) III۔ فارسی کا اردو میں ترجمہ کرنا۔ (نصابی اسباق میں سے)

(15) IV۔ اردو کا فارسی میں ترجمہ کرنا۔

(5) V۔ دیئے گئے الفاظ سے خالی جگہ پُر کرنا۔

(10) VI۔ فارسی الفاظ کے اردو ہندی، پنجابی، انگریزی میں معانی بتانا۔

(15) VII۔ اسم ذمہ، اسم مفعول، حاصل مصدر مثالوں کے ساتھ واضح کریں۔

CLASS-XII
13. FRENCH

Time: 3 Hrs
Time : 9 minutes per Student

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

THEORY

1. Six (6) multiple-choice questions on general topic (civilization, grammar, vocabulary...) on lesson 1 to 13 of the text book to be asked and answered in French. Students are required to attempt all 10 questions. Each question will carry 1 mark. **10 Marks**
2. Ten (10) Brief questions pertaining on lesson 1 to 13 of the text books to be asked and answered in French. Students are required to attempt any 5 questions. Each question will carry 1 mark.
10 Marks
3. Making of sentences in French with idiomatic expressions occurring in the text, 15 questions will be asked. Students are required to attempt any 10 questions. **10 Marks**
4. Questions on applied grammar based on the prescribed text (Refer of pages 252-253) of the prescribed text. **10 Marks**
5. Translation from English, Hindi, Punjabi or Urdu to French of an unseen passage of 10 short sentences. **10 Marks**
6. Translation from French into English, Hindi, Punjabi or Urdu of an unseen passage of 10 short sentences. **10 Marks**
7. Composition of an essay of about 200 words based on the vocabulary of text book. **10 Marks**

Book Prescribed

"Le francais et la Vie II"

Author-G, MAUGER/BRUEZIERE, Publication Hachette

Course of Reading:

Lesson 1 to 26

ORAL

Note: A group of 20 students will be examined in a 3 hours session.

1. Dictation from the prescribed passage. **5 Marks**

2. Reading a passage in French from the text and putting question on it and some general questions to be asked. **10 Marks**
3. Self Introduction **5 Marks**

Book Prescribed

"Le français et la Vie II"

Author-G, MAUGER/BRUEZIERE, Publication Hachette

Course of Reading:

Lesson 1 to 26

CLASS-XII
14. GERMAN

Time: 3 Hrs
Time: 9 minutes per Student

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

THEORY

Note: The question paper will be set in German.

1. 20 objective type questions (True/False, Jumbled words, Multiple Choice etc.) **20**
2. Question of applied grammar based on the prescribed text book. **15**
3. Comprehension of an unseen passage in German (Attempt One out of Two). **10**
4. Official Letters of about 40 words with internal choice. **10**
5. Write a short paragraph of about 100 words (attempt one out of three). **15**

Book Prescribed

"Tangram aktuell 2" (Kursbuch + Arbeitsbuch)" by Hueber. Niveau A2/ 1.

ORAL

Note: A Group of 20 students will be examined by the examiner in a three hours sessions.

1. Lesen - Reading of a passage or an extract from the text book. 10
2. Vorstellung (Self Introduction): For example: Name, age, profession, place of living, family. 10

Book Prescribed

"Tangram aktuell 2" (Kursbuch + Arbeitsbuch)" by Hueber. Niveau A2/1.

CLASS-XII
15. RUSSIAN

Time : 3 Hrs
Time : 9 minutes per Student

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

THEORY

NOTE: THE QUESTION PAPER WILL BE SET IN RUSSIAN.

1. 15 Objective type questions (True/False, One word answer, multiple choices etc.) **15**
2. Grammar (Attempt 4 questions out of 7)
 - i. The numerals: their classification, declension -Pages 191- 199
 - ii. The verb, verb aspect, mood -Pages 207,213, 251, 257
 - iii. The participle -Pages 364-368
 - iv. The verbal adverb -Pages -386 -391 **25**
3. Translation of an unseen passage (Attempt 1 out of 2) or sentences (Attempt 15 out of 20) from Russian into Hindi/ English/ Punjabi/ Urdu. **15**
4. Translation of an unseen passage (Attempt 1 out of 2) or sentences (Attempt 15 out of 20) from English/ Hindi/ Punjabi/ Urdu into Russian. **15**

Book Prescribed

1. "Basic Russian" by G. Mukherjee, (2nd edition, 1979) Published by Mac Millian & Co., New Delhi (Lesson 15 to 33)
'Russia'n' by I.M. Pulkina, E. Zakhova-Nekrasova "Russky Yazyk" available at People's Publishing House, Rani Jhansi, New Delhi, 2nd Edition (Pages Mentioned Above)

Book Recommended for Consultation

2. 'Rusi Vyakhya Ki Sankshipat Vyakhya' by I.M. Pulkina, Videshi Bhasha Prakashan Grih, Moscow.

Books Recommended for Additional reading

3. 'A Chrestomathy of Russian Literature' by C.N. Chakravati and N.S. Burlakoy, Jawarharlal Nehru University, New Delhi.
4. 'Russian as we speak it' by S. Skhavronina, Foreign Languages publishing Hõuse Moscow.

Note:The question paper should not include words or constructions which have not been covered in the prescribed texts. However, if it absolutely necessary to give new words or construction, then they should be given with translation into English/Punjabi/Hindi/Urdu. There should not be in all given five new words/constructions in one question paper.

ORAL

1. Reading of a passage or a extract from the text book. **5**
2. Topics will be given to the students at the tirne of exam (Oral). They will be divided into two groups and discuss about the given topic and speak. Give positive as well negative statements and at last come to some conclusion. **10**
3. Self Introduction : For example : Name, age, profession, place of living, family. **5**

Book Prescribed

1. "Basic Russian" by G. Mukherjee, (2nd edition, 1979) Published by Mac Millian & Co., New Delhi (Lesson 15 to 33)
'Russia'n' by I.M. Pulkina, E. Zakhova-Nekrasova "Russky Yazyk" available at People's Publishing House, Rani Jhansi, New Delhi, 2nd Edition (Pages Mentioned Above)

Book Recommended for Consultation

2. 'Rusi Vyakhya Ki Sankshipat Vyakhya' by I.M. Pulkina, Videshi Bhasha Prakashan Grih, Moscow.

Books Recommended for Additional reading

3. 'A Chrestomathy of Russian Literature' by C.N. Chakravati and N.S. Burlakoy, Jawarharlal Nehru University, New Delhi.
4. 'Russian as we speak it' by S. Skhavronina, Foreign Languages publishing Hõuse Moscow.

Note:The question paper should not include words or constructions which have not been covered in the prescribed texts. However, if it absolutely necessary to give new words or construction, then they should be given with translation into English / Punjabi / Hindi / Urdu. There should not be in all given five new words/constructions in one question paper.

CLASS-XII
16. KOREAN

Time: 3 hrs
Time: 9 min. per student

Theory: 70 Marks
Oral/Practical: 20 Marks
C.C.E.: 10 Marks
Total: 100 Marks

THEORY

Note: The question paper will be set in Korean.

1. Question of applied grammar based on the prescribed text book. **20**
2. Comprehension of unseen passage in Korean. **10**
3. Translation of an unseen passage or sentences from Korean into English. **15**
4. Translation of an unseen passage or sentences from English into Korean. **10**
5. Composition of an essay of about 200 words based on the vocabulary of text Book. **15**

Text book prescribed

Korean II By Sang Oak Lee
Publication HOLLIM

ORAL

Note: A GROUP OF 20 STUDENTS WILL BE EXAMINED IN A 3 HOURS SESSION.

1. Reading of a passage from the text book. **10**
2. Simple conversation. (Question regarding name, age, family, school or daily routine may be asked). **10**

Text book prescribed

Korean II By Sang Oak Lee
Publication HOLLIM

CLASS-XII
18. ECONOMICS
(HUMANITIES GROUP)

Time: 3Hrs

Theory: 90 Marks

CCE: 10 Marks

Total: 100 Marks

STRUCTURE OF QUESTION PAPER

1. All questions are compulsory.
2. The question paper will comprise of 4 sections A, B, C and D of 33 sub parts (questions) in total. The question paper will carry:

SECTION- A

Objective Type Questions: Question No. 1 comprises of 10 sub parts (questions) I to X carry 1 mark each (ten questions). This type may include questions with one word to one sentence answer/ fill in the blanks/ true or false/ multiple choice type questions. **1×10= 10**

SECTION- B

Very Short Answer Type Questions: Question No. 2 comprises of 10 sub parts (questions) I to X carrying 2 marks each. Answer to each question should be in about 30-35 words. Out of 10 questions 4 question will be numerical i.e. 2 from Part A and 2 from Part B. **2×10= 20**

SECTION- C

Short Answer Type Questions: Question No. 3 comprises of 9 sub parts (questions) I to IX carrying 4 marks each. Three questions out of 6 questions will be of internal choice and three questions will be numerical that is 1 from Part A and 2 from Part B. Answer to each question should be in about 60-70 words. **4×9= 36**

SECTION- D

Long Answer Type Questions: Question No. 4 comprises of 4 sub parts (questions) I to IV carrying 6 marks each. Answer to each question should be in about 150-200 words. Three will be 100% internal choice in these questions. From Part B out of two questions 1 question will be numerical. **4×6= 24**

Note:- All units of the syllabus should be given adequate representation in the question paper.

Typology of Questions	Number of Questions	Marks Division	Division of Syllabus		Total Marks
			Part A Unit 1 to 4	Part B Unit 5 to 9	
Section-A Objective Type Questions	Q.1 (Q.I to X)	01 mark	5	5	10 Marks
Section-B Very Short Answer Type questions	Q.2 (Q.I to X)	02 marks	5	5	20 Marks
Section-C Short Answer Type Questions	Q.3 (Q.I to IX)	04 marks	5	4	36 marks
Section-D Long Answer Type Questions	Q.4 (Q.I to IV)	06 marks	2	2	24 Marks
Total	33	---	17	16	90

SYLLABUS

PART-A (INTRODUCTORY MICRO ECONOMICS)

Unit-1 INTRODUCTION

Micro Economics: Meaning; Difference between Micro and Macro Economics, Central Problems of an Economy, Production Possibility Curve and Opportunity Cost.

Unit-2 CONSUMER BEHAVIOUR AND DEMAND

- i. Consumer's Equilibrium:- Meaning, Attainment of Equilibrium through Utility Approach (one and two commodity case).
- ii. Theory of Demand: Meaning of Demand, Types of Demands: Individual and Market Demand, Determinants of Demand, Demand Schedule, Demand Curve, Movement Along and Shift in Demand Curve.
- iii. Price Elasticity of Demand: Measurement of Price Elasticity of Demand- Percentage, Total expenditure and Geometric method.

Unit-3 PRODUCER BEHAVIOUR AND SUPPLY

- i. Production-Meaning, Concept of Production, Function: Returns to Factor and Returns to Scale.
- ii. Theory of Supply: Meaning of Supply, Types of Supply: Individual and Market Supply, Determinants of Supply, Supply Schedule, Supply Curve, Law of Supply, Movement along and shifts in supply curve, Price Elasticity of Supply, Measurement of Price Elasticity of Supply; Percentage and Geometric method.
- iii. Concepts of Costs: Short Run Cost Curves; Fixed and Variable Costs, Total, Average and Marginal Costs.

Concepts of Revenue: Total, Average and Marginal Revenue and their relationship.
- iv. Producer's Equilibrium with the help of MC and MR.

Unit-4 FORMS OF MARKET AND PRICE DETERMINATION

- i. Forms of Market: Perfect Competition, Monopoly, Monopolistic Competition-Their Meaning and Features.
- ii. Price Determination under Perfect Competition- Equilibrium Price, Effect of shifts in Demand and Supply.

PART-B (INTRODUCTORY MACRO ECONOMICS)

Unit-5 NATIONAL INCOME AND RELATED AGGREGATE

- i. Basic Concept and Measurement of National Income (introduction only)

- ii. Macro Economics: Meaning, Circular flow of Income, Concepts of GDP, GNP, NDP, NNP (at market price and factor cost), National Disposable Income (Gross & Net); Private Income, Personal Income and Personal Disposable Income.
- iii. Measurement of National Income-Value Added Method, Income Method & Expenditure Method

Unit-6 DETERMINATION OF INCOME AND EMPLOYMENT.

- i. Aggregate Demand, Aggregate Supply and their Components.
- ii. Propensity to Consume and Propensity to Save (Average and marginal).
- iii. Meaning of Involuntary-Unemployment, Concept of Full Employment.
- iv. Determination of Equilibrium level of Income and Employment-Two sector model.
- v. Concept of Investment Multiplier and its working.
- vi. Problems of Excess and Deficient Demand. Measures to Correct Excess and Deficient Demand, Availability of Credit, Change in Government Spending.

Unit-7 MONEY AND BANKING

- i. Money: Meaning, Evolution and Functions.
- ii. Central Bank: Meaning and Functions.
- iii. Commercial Banks: Meaning and Functions.
- iv. Recent significant reforms and issues in Indian Banking System; Privatisation and Modernization.

Unit-8 GOVERNMENT BUDGET AND THE ECONOMY

- i. Government Budget. Meaning and its Components, Objectives of Government Budget.
- ii. Budget Receipts – Revenue Receipts and Capital Receipts.
- iii. Budget Expenditure-Revenue and Capital Expenditure, Plan and Non-Plan Expenditure and Development and Non-Development Expenditure.
- iv. Balance Budget, Surplus Budget and Deficit Budget: Their Meaning and Implications; Types of Deficit Budget-Revenue Deficit, Fiscal Deficit and Primary Deficit(meaning and implications); Measures to contain different Deficits. Downsizing the role of Government: Meaning and Implications.

Unit-9 BALANCE OF TRADE AND BALANCE OF PAYMENTS.

- i. Foreign Exchange Rate: Meaning, Fixed and Flexible Exchange Rate System-Meaning, Merits and Demerits.

- ii. Determination of Flexible Exchange Rate System through Demand and Supply.
- iii. Balance of Payment Accounts; Meaning and Components.
- iv. A brief analysis about recent Exchange Rate Issue.

CLASS-XII
19. MATHEMATICS

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

Time: 3 Hrs

1. All Questions are Compulsory.
2. Q 1 will consist of 10 parts and each part will carry one (1) Mark.
3. Q 2 to Q 9 each will be of 2 Marks.
4. Q 10 to Q 19 each will be of 4 marks.
5. Q 20 to 23 each will of 6 marks.
6. There will be no overall choice. There will be an internal choice in any 3 questions of 4 marks each and all questions of 6 marks.(Total of 7 internal choices)
7. Use of Calculator is not allowed.

Sr. No	Topic	Q. Carrying 1-Marks	Q. Carrying 2-Marks	Q. Carrying 4-Marks	Q. Carrying 6-Marks	Total Marks
1.	Relations & Functions	1	-	1	-	05
2.	Inverse Trigonometric Functions	1	-	1	-	05
3.	Matrices	1	1	1	1	13
4.	Determinants					
5.	Continuity & Differentiability	2	1	1	-	08
6.	Applications of Derivatives	-	-	1	1	10
7.	Integrals	1	2	1	-	09
8.	Applications of the Integrals	-	-	1	-	04
9.	Differential Equations	1	2	1	-	09
10.	Vectors	1	-	1	-	05
11.	Three-dimensional Geometry	1	1	-	1	09
12.	Linear Programming	-	-	-	1	06
13.	Probability	1	1	1	-	07
Total Questions		1 (10Parts)	8	10	4	23
Total Marks		10	16	40	24	90

SYLLABUS

1 Relations and Functions:

Types of relations: Reflexive, symmetric, transitive and equivalence relations. One to one and onto functions, composite functions, inverse of a function. Binary operations.

2 Inverse Trigonometric Functions:

Definition, Range, Domain, Principal value branches. Graphs of inverse trigonometric functions. Elementary properties of inverse trigonometric functions.

3 Matrices:

Concept, notation, order, equality, types of matrices, zero matrix, transpose of a matrix, symmetric and skew symmetric matrices. Addition, multiplication and scalar multiplication of matrices, simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Concept of elementary row and column operations. Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).

4 Determinants:

Determinant of a square matrix (up to 3×3 matrices), properties of determinants, minors, cofactors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equation by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

5 Continuity and Differentiability:

Continuity and Differentiability, derivative of composite functions, chain rule, derivative of inverse trigonometric functions, derivative of implicit function. Concepts of exponential and logarithmic functions. Derivatives of $\log_e x$ and e^x . Logarithmic differentiation. Derivative of functions expressed in parametric forms. Second order derivatives. Rolle's and Lagrange's Mean Value Theorems (without proof) and their geometric interpretations.

6 Applications of Derivatives

Applications of derivatives: rate of change, increasing/decreasing functions, tangents and normal, approximation, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real life situations).

7 Integrals:

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, only simple integrals of the type:

$$\int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \int \frac{dx}{\sqrt{a^2 - x^2}}, \int \frac{dx}{\sqrt{ax^2 + bx + c}}, \int \frac{dx}{ax^2 + bx + c}$$

$$\int \frac{(px + q)}{ax^2 + bx + c} dx, \int \frac{(px + q)}{\sqrt{ax^2 + bx + c}} dx, \int \sqrt{a^2 \pm x^2} dx \text{ and } \int \sqrt{x^2 - a^2} dx$$

$$\int \sqrt{ax^2 + bx + c} dx \text{ and } \int (px + q)\sqrt{ax^2 + bx + c} dx$$

to be evaluated.

Definite integrals as a limit of a sum. Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals. .

8 Applications of the Integrals:

Applications in finding the area under simple curves, especially lines, areas of circles/parabolas/ellipses (in standard form only), area between the two above said curves (the region should be clearly identifiable).

9 Differential Equations:

Definition, order and degree, general and particular solutions of a differential equation. Formation of differential equation whose general solution is given. Solution of differential equations by method of separation of variables, homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type:

$$\frac{dy}{dx} + Py = Q$$

where P and Q are functions of x or constant.

$$\frac{dx}{dy} + Px = Q$$

where P and Q are functions of y or constant

10 Vectors:

Vectors and scalars, magnitude and direction of a vector. Direction cosines/ratios of vectors. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Scalar (dot) product of vectors, projection of a vector on a line. Vector (cross) product of vectors, scalar triple product.

11 Three-dimensional Geometry:

Direction cosines/ ratios of a line joining two points. Cartesian and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Cartesian and vector equation of a plane. Angle between (i) two lines, (ii) two planes, (iii) a line and a plane. Distance of a point from a plane.

12 Linear Programming:

Introduction, definition of related terminology such as constraints, objectives function, optimization, different types of linear programming (L.P.) problems, mathematical formulation of L.P problems, graphical method of solution for problems in two variables, feasible and infeasible regions, feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints)

13 Probability:

Multiplication theorem on probability. Conditional probability, independent events, total probability, Baye's theorem, Random variable and its probability distribution, mean and variance of haphazard variable. Repeated independent (Bernoulli) trials and Binomial distribution.

Note:- The subtopics which are printed in the books published by Punjab School Education Board but are not mentioned in syllabus, should be considered as part of syllabus.

CLASS-XII
20. BUSINESS ORGANISATION & MANAGEMENT
(HUMANITIES GROUP)

Time: 3 Hrs

Theory: 90 Marks

CCE: 10 Marks

Total: 100 Marks

STRUCTURE OF QUESTION PAPER

1. The question paper will cover whole of the syllabus.
2. 26 Questions will be set in the question paper. Students will attempt 24 questions.
3. All units of the syllabus should be given adequate representation in the question paper.

Section-A

4. Question No. 1 consists of 10 sub parts carrying 1 mark each. Answer of each Part should be given in 1-15 words. Objective type questions may include questions with one word to one sentence answer/fill in the blank/true or false/multiple choice type questions.

Section-B

5. Question No. 2 to 11 will carry 2 marks each. Answer of each question should be given in 5-10 lines.

Section-C

6. Do any 9 question out of 11 questions. Question No. 12 to 22 will carry 4 marks each. Answer of each question should be given in 15-20 lines.

Section-D

7. Question No. 23 to 26 will carry 6 marks each with internal choice. Answer of each question should be given in 3-5 pages. Internal choice question should not be set from the same unit.

Detail of questions set from each unit

Unit No.	Name of the unit	Section-A 1 mark questions	Section-B 2marks questions	Section-C 4marks questions	Section-D 6marks question
1.	Nature & Significance of Management	1	1	1	(i) 1Q. from unit 1&2 with a from unit3&4 as internal choice
2.	Principles of Management	1			
3.	Business Environment	1	1	1	
4.	Planning			1	
5.	Organisation	1	1	1	(ii) 1Q from unit 5&6 with 1Q from unit 8&9 as internal choice.
6.	Staffing		1		
7.	Directing	1	1	1	
8.	Coordination	1	1	1	(iii) 1Q from unit 10&11 with 1Q from unit 13&14 as internal choice.
9.	Controlling				
10.	Business Finance	1	1	1	(iv) 1Q from unit 7 with 1Q from unit 12 as internal choice.
11.	Financial Markets		1		
12.	Marketing	1	1	2	
13.	Consumer Protection	1	1	1	
14.	Entrepreneurship Development	1		1	
	Total	10	10	11	

SYLLABUS

PRINCIPLES AND FUNCTIONS OF MANAGEMENT

UNIT-1: NATURE AND SIGNIFICANCE OF MANAGEMENT.

- (a) Management Concept, Objectives and Importance.
- (b) Management as an Activity, Process, Discipline and as a Group.
- (c) Nature of Management as a Science, as an Art and as a Profession.
- (d) Management and Administration Comparison.
- (e) Level of Management-Top, Middle & Supervisory.
- (f) Management Function-Planning, Organising, Staffing, Directing Coordinating and Controlling.

UNIT-2: PRINCIPLES OF MANAGEMENT

- (a) Principles of Management: Meaning, Nature & Significance.
- (b) Fayol's Principles of Management.
- (c) Taylor's Scientific Management-Principles & Techniques.

UNIT-3: BUSINESS ENVIRONMENT

- (a) Business Environment - Meaning & Importance.
- (b) Dimensions of Business Environment-Political, Economic, Social Legal and Technological.
- (c) Economic Environment in India, Impact of Govt. Policy changes on business & industry with Reference to Liberalization, Privatization and Globalization (since 1991).

UNIT-4: PLANNING

- (a) Meaning, Features, Process, Importance & Limitations.
- (b) Goals, Objectives, Policy, Procedures, Strategy, Methods, Rules, Budgets and Programmes-Meaning and Distinction.

UNIT-5: ORGANISATION

- (a) Meaning and Importance
- (b) Process of Organizing
- (c) Types of Organization: Formal, Informal, Line Organization, Line & staff and Functional Organization.
- (d) Delegation: Meaning, Elements and Importance, Barriers in the way of delegation, Step to make delegation effective.
- (e) Decentralization: Meaning and Importance
- (f) Difference between Centralization and Decentralization.
- (g) Difference between Delegation and Decentralization.

UNIT-6: STAFFING

- (a) Staffing: Meaning, Need and Importance
- (b) Steps in Staffing Process:
 - (i) Recruitment: Meaning and Sources.
 - (ii) Selection: Meaning and Process.
 - (iii) Training & Development: Meaning, Need, Types and Methods.
- (c) Methods of Wage Payment: Time Rate & Price Rate.
- (d) Types of Compensation and Incentives: Monetary & Non Monetary.

UNIT-7: DIRECTING

- (a) Directing: Meaning and Importance.
- (b) Elements of Direction:

- (i) Supervision: Meaning and Importance
- (ii) Motivation: Meaning and Importance, Maslow's hierarchy of needs: Financial & Non-Financial Incentives.
- (iii) Leadership: Meaning, Importance, Quality of a good leader.
- (iv) Communication: Meaning and Importance, Types of Communication and Barriers to Effective Communication.

UNIT-8: COORDINATION

Coordination: Meaning, Nature & Importance.

UNIT-9: CONTROLLING

- (a) Controlling: Meaning and Importance.
- (b) Relationship between Planning and Controlling.
- (c) Steps in the process of Control.

BUSINESS FINANCE AND MARKETING

UNIT-10: BUSINESS FINANCE

- (a) Meaning and Objectives of Finance Functions, Profit Maximization vs Wealth Maximization.
- (b) Financial Planning: Meaning & Importance
- (c) Capital Structure: Meaning & Factors
- (d) Working Capital: Meaning, Importance, Types & Factors affecting its requirements.

UNIT-11: FINANCIAL MARKETS

- (a) Concept of Financial Market: Money Market-Nature, Instruments.
- (b) Capital Market: Nature, and Types-Primary and Secondary Market.
- (c) Distinction between Capital Market and Money Markets.
- (d) Stock Exchange; Meaning, Functions, NSEI, OCTEI, Training Procedure.
- (e) Securities and Exchange Board of India (SEBI): Objectives and Functions.

UNIT-12: MARKETING

- (a) Marketing: Meaning, Function & Role.
- (b) Distinction between Marketing & Selling.
- (c) Marketing Mix: Concept & Elements-
 - (i) Product: Nature, Classification, Branding, Labeling and Packaging.
 - (ii) Physical Distribution: Meaning, Role, Channels of Distribution:-
Meaning, Types, Factors determining choice of channel.
 - (iii) Promotion: Meaning and Role, Promotion Mix, Role of Advertising and Personal Selling, Objectives of Advertising.
 - (iv) Price: Factors influencing Pricing.

UNIT-13: CONSUMER PROTECTION

- (a) Importance of Consumer Protection,
- (b) Consumer Rights.
- (c) Consumer Responsibilities.

- (d) Ways and Means of Consumer Protection: Consumer Awareness and legal redressal with special reference to Consumer Protection Act 1986.
- (e) Role of Consumer Organization and NGO's.

UNIT-14 ENTREPRENEURSHIP DEVELOPMENT

- (a) Entrepreneurship: Concept, Characteristics, Needs and Functions.
- (b) Process of Entrepreneurship Development.
- (c) Entrepreneurial Values, Attitudes and Motivation: Meaning & Concept.

CLASS-XII
21. BOOK KEEPING AND ACCOUNTANCY
(HUMANITIES GROUP)

Time: 3 Hrs

Theory: 90 Marks

CCE: 10 Marks

Total: 100 Marks

STRUCTURE OF QUESTION PAPER (THEORY)

1. The question paper will cover whole of the syllabus.
2. There are 4 sections in the question paper i.e. Section A, Section B, Section C and Section D.
3. 26 Question will be set in the question paper. Out of which students will have to attempt 24 questions.
4. All units of the syllabus should be given adequate representation in the question paper.
5. There is no word, line or page limit for numerical questions.
6. The use of non-programmable simple calculator is allowed.

SECTION-A

7. Question No. 1 consists of 10 sub parts carrying 1 mark each. Answer of each part should be given in 1-15 words. Objective type questions may include questions with one word or one sentence answer/fill in the blanks/true or false/multiple choice type questions.

SECTION-B

8. Question No. 2 to 11 (of which 5 questions will be numerical and 5 question will be theoretical) will carry 2 marks each. Answer of theoretical questions should be given in 5 to 10 lines.

SECTION-C

9. Question No. 12 to 22 will carry 4 marks each. Question No.12 to 22 (of which 6 questions will be numerical and 5 questions will be theoretical) and students will attempt any 9 questions out of these 11 questions.

SECTION-D

10. Question No. 23 to 26 will carry 6 marks each with internal choice. Of these, any two questions will have internal choice between therotical and numerical questions and other two will have only numerical question as internal choice. Answer of theoritical questions should be given in 3-4 pages of the answer book.

SYLLABUS

UNIT 1: ACCOUNTING FOR NOT-FOR-PROFIT ORGANIZATION.

1. Meaning, Basic Concepts
2. Receipts and Payments : Meaning and Concept of Fund Based and Non Fund Based Accounting
3. Prepration of Income and Expenditure Account and Balance Sheet from Receipt and Payment Account with additional information.

UNIT 2 : ACCOUNTING FOR PARTNERSHIP

1. Nature of Partnership Firm, Partnership Deed (Meaning and Importance)
2. Final Accounts of Partnership: Fixed v/s Fluctuating Capital, Division of Profit among Partners (excluding guarantee and past adjustments).
Preparation of Profit and Loss Appropriation Account

UNIT 3: RECONSTITUTION OF PARTNERSHIP

1. Change in Profit Sharing Ratio among the existing Partners- Sacrificing Ratio and Gaining Ratio
2. Accounting for Revaluation of Assets and Liabilities and Distribution of Reserves and Accumulated Profits
3. Goodwill: Meaning, Nature, Factors affecting and Methods of Valuation. Average Profits, Super Profits and Capitalization Methods
4. Admission of a Partner:- Effect of Admission of Partner, Change in Profit Sharing Ratio, Accounting Treatment of Goodwill (as per accounting standard 10). Revaluation of Assets and Liabilities, Reserves (Accumulated profits) and Adjustment of Capitals
5. Retirement/Death of a Partner: Change in Profit Sharing Ratio, Accounting Treatment of Goodwill, Revaluation of Assets and Liabilities, Treatment of Accumulated Profits (Reserve), Adjustment of continuing P.capitals, Payment to Retiring Partner/ Deceased Partners.

UNIT 4 : DISSOLUTION OF PARTNERSHIP FIRM

Meaning and Various Modes of Dissolution of Partnership Firm, Settlement of Accounts. Preparation of Realization Account and Related Accounts (excluding Piece Meal Distribution, Sale to a Company and Insolvency of a Partner).

UNIT-5: ACCOUNTING FOR SHARE CAPITAL AND DEBENTURES

1. Share Capital: Meaning, Nature and Types
2. Accounting for Share Capital: Issue and Allotment of Equity and Prefer Shares, Over Subscription and under Subscription, Issue at Par Securities Premium and at Discount, Calls in Advance, Calls in Arrears, Issue of Shares for Consideration other than cash.
3. Forfeiture of Shares: - Accounting Treatment, Reissue of Forfeited Shares.
4. Presentation of Share and Debenture, Capital in Company's Balance Sheet
5. Issue of Debentures:- Meaning, Types of Debentures, Issue at Par, Premium and Discount, Issue of Debentures for Consideration other than cash, Debenture Issues as Collateral Security.
6. Redemption of Debentures: - Out of proceeds of fresh issue, Accumulated Profits and Sinking Fund.

UNIT 6: ANALYSIS OF FINANCIAL STATEMENTS

1. Financial Statement of Company: - Balance Sheet of a Company in the prescribed form with major heading only (schedule VI)
2. Financial Analysis: - Meaning, Significance and Purpose, Limitations.

3. Tools for Financial Analysis: - Comparative statements, Common Size Statement and Trend Analysis.
4. Accounting Ratio: - Meaning, Objectives and Types of Ratios:
 - a. Liquidity Ratio: - Current Ratio, Liquidity Ratio.
 - b. Solvency Ratio: - Debt to Equity, Total Assets to Debt, Proprietary Ratio.
 - c. Activity Ratio: Inventory Turnover, Debtors Turnover, Creditors Turnover, Working Capital Turnover, Fixed Assets Turnover, Currents Assets Turnover.
 - d. Profitability Ratio: - Gross Profit, Operating Profit Ratio, Net Profit Ratio, Return on Investment, Earning Per Share Dividend Per Share, Price Earning Ratio.

UNIT 7: STATEMENT OF CHANGES IN FINANCIAL POSITION

Cash Flow Statement: - Meaning and Objectives, Preparation, Adjustments related to Depreciation, Dividend, Tax, Purchase and Sale of non current assets (as per revised standard issued by ICAI)

CLASS-XII
22. POLITICAL SCIENCE

Time: 3 Hrs

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

STRUCTURE OF QUESTION PAPER

1. All questions are compulsory.
2. The question paper will comprise of 4 sections A, B, C and D of four questions with 34 sub parts to be attempted.
3. **All units of the syllabus should be given adequate representation in the question paper.**

SECTION- A

Objective Type Questions: Question No. 1 will have ten Parts (I to X) and each Part will carry 1 mark. This section will include questions with one word answer/ fill in the blank/ true or false/multiple choice type questions.

10×1= 10

SECTION- B

Very Short Answer Type Questions: Question No. 2 comprises of 12 sub parts (questions I to XII) carrying 2 marks each. Answer to each question should be in about 20-30 words. All Questions are compulsory. **12×2= 24**

SECTION- C

Short Answer Type Questions: Question No. 3 comprises of 10 sub parts (I to X) out of which students have to attempt any 8 question carrying 4 marks each. Answer to each question should be in about 50-60 words.

8×4= 32

SECTION- D

Long Answer Type Questions: Question No. 4 comprises of 4 sub parts (questions I to IV) carrying 6 marks each. Answer to each question should be in about 150-200 words. Three will be 100% internal choice in these questions.

4×6= 24

Typology of Questions	Number of Questions	Marks Division	Division of Syllabus		Total Marks
			Part A	Part B	
Section-A Objective Type Questions	Q.1 (Q.I to X)	01 mark	5	5	10 Marks
Section-B Very Short Answer Type questions	Q.2 (Q.I to XII)	02 marks	6	6	24 Marks
Section-C Short Answer Type Questions	Q.3 (Q.I to X) Attempt any eight	04 marks	5	5	32 marks
Section-D Long Answer Type Questions	Q.4 (Q.I to IV) 100% internal choice	06 marks	2 100% internal choice	2 100% internal choice	24 Marks
Total	34/36	---	18	18	90

SYLLABUS
PART-A POLITICAL THEORY

Unit I: Political System

- (i) Meaning, Characteristics and functions.
- (ii) Difference between state and political system.
- (iii) Comparative Politics: Meaning and Nature.
- (iv) Modern concepts:
 - a) Political Culture: Meaning and Characteristics.
 - b) Political Socialisation: Meaning and Agents.

Unit II: Some major contemporary Political Theories

- (i) Liberalism
- (ii) Marxism
- (iii) Political ideas of Mahatama Gandhi

Unit III: Bureaucracy (Civil Services)

- (i) Meaning and importance
- (ii) Recruitment
- (iii) Role and functions
- (iv) Distinction between Political Executive and Permanent Executive and their respective roles

Unit IV: Electorate

- (i) Adult Suffrage
- (ii) Systems of Representation
- (iii) Direct and Indirect Elections

Unit V: Public opinion

- (i) Role and importance of Public Opinion in a Democratic Polity.
- (ii) Agencies for the formulation and expression of Public Opinion

Unit VI: Party System

- (i) Political parties – their functions and importance
- (ii) Basis of formation of Political Parties
- (iii) Types of Party System
- (iv) The Role of Opposition

Unit VII: Interest and Pressure Groups

- (i) Interest Groups and Pressure Groups – their nature types and functions
- (ii) Ways of functioning of pressure groups

PART -B
INDIAN POLITICAL SYSTEM

Unit VIII: Indian Democracy

- (i) Parliamentary Model.
- (ii) Socio-Economic Factors Conditioning Indian Democracy
- (iii) Problems and challenges to Indian Democracy
 - a) Inequality, Social and Economic/poverty
 - b) Illiteracy
 - c) Regionalism

- d) Communalism, Casteism, Separatism and Political Violence

Unit IX: Democracy at Grass root

- (i) Concept of Panchayati Raj
- (ii) Structure and Working of Panchayati Raj
- (iii) Panchayati Raj – Some problems
- (iv) Local Bodies in Urban Areas

Unit X: Party System in India

- (i) Nature of Party System in India
- (ii) Study of major national political parties – their programmes and policies
- (iii) Problems facing the Indian Party System

Unit XI: Electoral System

- (i) Adult Franchise and people's participation
- (ii) Voting behaviour – meaning and determinants
- (iii) Election Commission and Election Procedure

Unit XII: National Integration

- (i) Problems of National Integration
- (ii) Steps taken to promote National Integration

Unit XIII: Foreign Policy of India

- (i) Determinants of Foreign Policy
- (ii) Basic principles of Foreign Policy
- (iii) India and the United Nations, India and SAARC

Unit XIV: India and the World

- (i) India's relations with her Neighbours : Nepal, Sri Lanka, China, Bangla Desh and Pakistan
- (ii) India's relation with U.S.A. and Russia
- (iii) India's approach to major world issues: Human Rights, Disarmament and Globalization.

CLASS-XII
23. SOCIOLOGY

Time: 3 Hrs

Theory: 90 Marks

CCE: 10 Marks

Total: 100 Marks

STRUCTURE OF QUESTION PAPER

1. All questions are compulsory.
2. The question paper will comprise of 4 sections A, B, C and D of four questions with 32 sub parts to be attempted.
3. **All units of the syllabus should be given adequate representation in the question paper.**

SECTION- A

Objective Type Questions: Question No. 1 will have ten Parts (I to X) and each Part will carry 1 mark. This section will include questions with one word answer/ fill in the blank/ true or false/multiple choice type questions.

1×10= 10

SECTION- B

Very Short Answer Type Questions: Question No. 2 comprises of 10 sub parts (questions I to X) carrying 2 marks each. Answer to each question should be in about 20-30 words. All Questions are compulsory. **2×10= 20**

SECTION- C

Short Answer Type Questions: Question No. 3 comprises of 6 sub parts (I to VI) out of which students have to attempt any 6 question carrying 4 marks each. Answer to each question should be in about 50-60 words. **4×6= 24**

SECTION- D

Long Answer Type Questions: Question No. 4 comprises of 6 sub parts (questions I to VI) carrying 6 marks each. Answer to each question should be in about 100-150 words. Three will be 100% internal choice in these questions. **6×6= 36**

Typology of Questions	Number of questions	Marks Division	Division of Syllabus		Total Marks
			Part A Unit 1 and 2	Part B Unit 3 and 4	
A. Objective Type Questions	10	01 Mark	5	5	10 Marks
B. Very Short Answer Type Questions	10	02 Marks	5	5	20 Marks
C. Short Answer Type Questions	06	04 Marks	3	3	24 marks
D. Long Answer Type Questions	06	06 Marls	3	3	36 Marks
Total	32	---	16	16	90

SYLLABUS

PART-A

Unit : I Tribal, Rural and Urban Societies in India

1. **Tribal Society** : Meaning ,Features; Classification of Tribes; Marriage System; Issues- Deforestation and Displacement; Changes in Tribal Society.
2. **Rural Society** : Meaning, Features; Issues- Indebtedness, Impact of Green Revolution; Changes in Rural Society.
3. **Urban Society**: Meaning Features; Issues Housing and Slums

Unit : II Inequalities in Indian Society

4. **Caste Inequalities**: Concept, Features; Caste and Social Stratification, Theories of Origin of Caste, Caste Inequality and Indian Society
5. **Class Inequalities**: Concept of class, Features of Class; Relations between caste, class, status Group and class Hierarchy, Views of Sociologists on class structure, Classes in Rural and Urban India.
6. **Gender Inequalities**: Concept, Gender Inequality, Theories of Feminism, Gender; Gender Discrimination: Meaning and Nature; Problems of Women, Role of Gender relation in Societal Development

Unit : III Structural and Cultural Change in India

7. **Westernisation and Sankritisation**: Westernisation: Meaning, Carrier of process, Features, Impact: Sanskritisation: Meaning, Sanskritisation preferred as against Brahminisation, Dominant Caste, Impact
8. **Modernisation and Globalisation**: Modernisation: Meaning, Characteristic, Process of Modernisation, Causes, Impact: Globalisation: Meaning, Characteristics, Process of Globalization, Causes ,impact
9. **Social Movement**: Meaning Types, Stages Caste Based Movements, Class Based Movements, Women's movements, Environmental movements

Unit : IV Social Problems in Indian Society

10. **Social Problems**: Alcoholism and Drug Addiction
11. **Violence Against Women: Female Foeticide and Domestic Violence: Female Foeticide**: Meaning, India Scenario, Causes, Consequences, Strategies to Combat Female Foeticide; Domestic Violence- Meaning, Forms, Factors, Causes, Effects, Remedies
12. **Social Issues**: The Aged and Disability: The Aged: Theries, Problems, Remedial Measures: Disability- Definition, Magnitude of Disability, Types, Causes, Social Model, Problems, Measures

CLASS-XII
24. PUBLIC ADMINISTRATION
(HUMANITIES GROUP)

Time: 3 Hrs

Theory: 90 Marks

CCE: 10 Marks

Total: 100 Marks

STRUCTURE OF QUESTION PAPER

All questions are compulsory.

The question paper will comprises 4 sections A, B, C and D of 27 questions in total. Student will attempt 25 questions. The question paper will have:

SECTION-A

Objective Type Questions: This section will include questions with one word answer/ fill in the blank/ true or false/ multiple choice type questions. Question No. 1 will have ten Parts (A to J) and each Part will carry 1 mark.

10×1=10

SECTION-B

Very Short Answer Type Questions: This section will have 12 questions (from Q no.2 to 13) Each question will carry 2 marks. All Questions are compulsory. Answer of each question should be in 20-30 words. **12×2= 24**

SECTION-C

Short Answer Type Questions: This section will have 10 questions from 14 to 23. Each question will carry 4 marks Student have to attempt any eight out of ten questions Each question should be in 50-60 words. **8×4=32**

SECTION-D

Long answer Type Questions: This section will have 4 questions (24 to 27) with internal choice. Each question will carry 6 marks. Answer of each question should be in 150-200 words. There will be 100% internal choice in these questions. **6×4= 24**

Note:- Weightage to each unit must be given in each type of questions as appropriate.

Typology of Questions	Number of questions	Marks Division	Total marks	Division of Syllabus	
				Part A	Part B
A. Objective Type Questions A to J	1 (In Parts A to J)	10 1 mark each part	10 Marks	5	5
B. Very Short Answer questions	12	02 marks each	24 Marks	6	6
C. Short Answer Questions (To be attempted = 8)	10 To be attempted 8	04 marks	32 marks	5	5
D. Long Answer Questions (with internal choice)	4	06 marks	24 Marks	2 (Internal choice)	2 (Internal choice)
Total			90		

SYLLABUS

UNIT -1 Personnel Administration

- a) Recruitment and Training: UPSC: Its Organization and Role.
- b) Promotion and Position Classification.
- c) Conduct and Discipline.
- d) Morale.
- e) Joint Consultative Machinery: Employer-Employee Relations

UNIT -II Financial Administration

- a) Budget-Meaning, Principles and Importance. The budget as an instrument of Public Policy. The budgetary process.
- b) Ministry of Finance -Its Organization and Working Legislative Control Finance.
- c) Public Accounts Committee at the central level.
- d) Estimates Committee at the central level.
- e) Performance Budgeting.

UNIT -III Audit and Its Role

- a) Comptroller and Auditor General of India.
- b) Accounting: Its Importance and Organization.

UNIT -IV Selected Approaches

- a) Scientific Management.
- b) Human Relations Approach.

UNIT - V Functional Aspects of Administration

- a) Communication.
- b) Supervision.
- c) Coordination.
- d) Centralization.
- e) Decentralization.
- f) Field Headquarter Relationship.

UNIT -VI

- a) Leadership.
- b) Policy Formation.
- c) Planning and Decision Making.

UNIT -VII Administration Improvement

- a) O & M (Organization and Methods).
- b) Administrative Reforms.

UNIT -VIII Administrative Law

- a) Administrative Law.
- b) Rule of Law.
- c) Delegated Legislation
- d) Administrative Tribunals -Role, Structure and Working.

CLASS-XII
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.

10×1=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.

8×2=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.

10×4=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 1½ to 2 pages of the answer sheet.

4×6=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) Budhist 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
26. MUSIC (VOCAL)

Time: 3Hrs
Time: 20 mints (per student)

Theory: 60 Marks
Practical: 30 Marks
CCE: 10 Marks
Total: 100 Marks

SYLLABUS (THEORY)

STRUCTURE OF QUESTION PAPER (THEORY)

1. The question paper will comprise of 22 questions in total.
2. All questions will be compulsory to attempt.
3. 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. **7×1=7 Marks**

Part-II will consist of 11 short answer type questions (Q. no. 8 to 18) carrying three (3) marks each. Answer of each question should be given with in 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 section A and B) carrying 5 marks each. Answer of each question should be given with in 150-200 word. **4×5=20 Marks**

SECTIONWISE DISTRIBUTION OF QUESTIONS AND MARKS

Type of Questions	Marks of per Question	No. of Questions	Section-wise Distribution of Questions		Total Marks
			Section-A	Section-B	
Objective Type	1 mark	07	3	4	7
Short Answer Type	3marks	11	6	5	33
Essay Type	5marks	04	2	2	20
Total Questions		22	11	11	60

SECTION-A

1. Brief history of modern period of Hindustani music.
2. Detailed knowledge of Tabla and Harmonium.
3. Time theory of Ragas.
4. Define and explain the, following terms:
Varna, Kan, Khatka, Murki, Gamak, Gayak, Gayaki, shudh Rag, Chhayalg Rag, Sankiran Rag, Lakshan geet.
5. Gayak ke gun aur dosh.
6. Definition of that. Its Characteristics, Ten that of Bhat Khande. Comparison between Raag and Thal Rules.
7. Essay:-(1) Importance of Tal in Music
(2) Place of Fine Arts in Music.
8. Contribution towards music by the following scholars:-
(1) Bade Gulam Ali Khan.
(2) Bhim Sain Joshi.
(3) Prof: Baldev sharan Narang
(4) Faiyaz Khan

9. Shastri gayan shailies:-

Dharupad, Dhamar, Tarana, Dhumri, Khayal, Tappa.

10. Contribution of famous folk singers of Punjab in Folks music.

- i. Assa Singh Mastana
- ii. Surinder Kaur
- iii. Narinder Biba
- iv. Kuldeep Manak
- v. Lal Chand Yamala Jat
- vi. Didar Sandhu
- vii. Parkash Kaur

SECTION-B

1. 10 Alankaras
2. To write the notations of Drut Khyals in prescribed.
Raags: Bhairav Bhimplasi, Malkauns, Khamaj.
3. Notation of Rupak taal, EK taal, jhaptal, Sul Taal, Tilwara taal, Dhamar taal.
4. Recognition of Raags from given Swar Sangatis.
5. Description of prescribed Raags.

STRUCTURE OF QUESTION PAPER (PRACTICAL)

Time: 20 minutes

Mark:30

There should not be more than 9 students in a batch of practical examination. Harmonium is allowed as accompaniment in music (Vocal). The examiner will set the question paper on the spot. While setting the question paper in practical, the examiner must consider the syllabus in theory and will follow the following instructions.

1. Demonstration/performance of any one Raag out of the prescribed syllabus. The students can exercise the choice of Raags. It will be for 4 minutes and shall carry 7½ marks.
2. Demonstration/performance of one Raag from prescribed syllabus. The choice will be of examiner. It will be for 4 minutes and will carry 7½ marks.
3. Demonstration/performance of prescribed Taals in Ikgun and Dugun Layakaries by hand. It will be for 4 minutes and will carry 5 marks.
4. Recognition of one Taal and one Raag out of the prescribed syllabus. It will be for 4 minutes and will carry 5 marks.
5. Demonstration/performance regarding Tarana/Tappa/ Lok geet/Patriotic song. It will also be for 4 minutes and will carry 5 marks.

SYLLABUS (PRACTICAL)

1. One Drut Khayal with Alaap- Taan the following Raags:
Bhairav, Bhimplasi, Malkauns, Khamaj.
2. One slow Khyal with short Alaaps and Taans in any of the prescribed Raags.
3. One Tarana only Sathai and Antra in any of the prescribed Raags.
4. Ability to demonstrate Rupak tal, jhaptal, Sul tal, Tilwara tal, dhamar tal with reciting bols by hands in Ikgun and Dugun layakari.
5. One Camposition of Patriotic song.
6. Ability to recognise the prescribed Raag from the passages of swaras.
7. Knowledge of the structure of Harmonum and Tabla.
8. 10 Alankaras.

**Note:- The book Published and Prescribed by the Punjab School Education Board:-
Sangeet Gayan-12**

CLASS-XII
27. GURMAT SANGEET

Time: 3 Hrs
Time: 20 mints (per student)

Theory: 60 Marks
Practical: 30 Marks
CCE: 10 Marks
Total: 100Marks

STRUCTURE OF QUESTION PAPER (THEORY)

1. The question paper will comprise of 22 questions in total.
2. All questions will be compulsory to attempt.
3. 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. 7×1=7 Marks

Part-II will consist of 11 short answer type questions (Q. no. 8 to 18) carrying three (3) marks each. Answer of each question should be given with in 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 section A and B) carrying 5 marks each. Answer of each question should be given with in 150-200word.

4×5=20 Marks

SECTIONWISE DISTRIBUTION OF QUESTIONS AND MARKS

Type of Questions	Marks of per Question	No. of Questions	Section-wise Distribution of Questions		Total Marks
			Section-A	Section-B	
Objective Type	1 mark	07	3	4	7
Short Answer Type	3marks	11	6	5	33
Essay Type	5marks	04	2	2	20
Total Questions		22	11	11	60

SYLLABUS (THEORY)
SECTION-A

Unit-1

1. Brief history of Gurmat Music.
2. Contribution towards Gurmat Sangeet by Guru Arjun Dev Ji.
3. Introduction of Choukie :-
 - a. Asa Di Var
 - b. Sodar
4. Brief introduction of famous Kirtaniyas of Guru period.
 - a. Bhai Mardana
 - b. Bhai Shahzad
 - c. Bhai Sata.
 - d. Bhai Balwand.
5. Raag Parkar and Mishrit (mixed) Raags of Guru Granth Sahib.
6. Life sketch and contribution of towards Gurbani Sangeet.
 - a. Bhai Chand
 - b. Prof. Tara Singh

- c. Bhai Hira Singh
7. Definition of following music terms used in Gurmat Sangeet Raag: Mahalla, Shabad Ank, Rahao, Dhuni (Dhun), Partal, Ghar.

SECTION-B

1. Description of the prescribed Raags: Todi and Dhanasari, Sarang, Baharaiv.
2. Description with Ikgun, Dugun and Chougun of Ek Taal, Jhap Taal, Rupak Taal and Teen Taal.
3. Recognition of prescribed Raags: Asavari, Dhanasari, Bhairav, Sarang Raags from given Swar- Sangaties.
4. Notation of Shabad- Gayan only Sathai Antra.

STRUCTURE OF QUESTION PAPER (PRACTICAL)

There should not be more than 9 students in a batch of practical examination of Gurmat Sangeet. Harmonium will be allowed as a accompaniment. The examiner will set the question paper on the spot. While setting the question paper in practical examination, the examiner must consider the syllabus in theory and will follow the following instructions.

1. Demonstration/performance of Shabad Gayan in any one Raag out of the prescribed Raags in the syllabus. The choice of the Raags will be done by the student. It will be for 6 minutes and shall carry 10 marks.
2. Demonstration/performance of Shabad Gayan in any one Raag out of the prescribed Raags in the syllabus. The examiner will do the choice of the Raags. It will be for 4 minutes and shall carry 5 marks.
3. Demonstration/performance of Taals in Ikgun and Dugun layakaries by hand. It will be for 4 minutes and shall carry 5 marks.
4. Recognition of one Taal and one Raag out of the prescribed Taals and Raags in syllabus. It will be for 2 minutes and will carry 5 marks.
5. Demonstration/performance regarding Alankaara/Shand (Chhant) and Salok. It will be for 4 minutes and carry 5 marks.

SYLLABUS (PRACTICAL)

1. Shabad Gayan in Bhairav, Sarang, Asavari and Dhansari according to the traditional style of Gurbani Gayan.
2. Capability to demonstrate: Ek Taal, Jhap Taal, Rupak Taal and Teen Taal.
3. Five Alankaras: (Sargam and Akaar) in Bhairav and Todi Raags.
4. Recognition of prescribed Raags by given Swar-Sangities.
5. Gayan of one Gurbani Salok in vilambat laya according to Vandana style.

CLASS-XII
28. MUSIC (INSTRUMENTAL)

Time: 3 Hrs
Time: 20 mints (per student)

Theory: 60 Marks
Practical: 30 Marks
CCE: 10 Marks
Total: 100Marks

STRUCTURE OF QUESTION PAPER (THEORY)

1. The question paper will comprise of 22 questions in total.
2. All questions will be compulsory to attempt.
3. 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. 7×1=7 Marks

Part-II will consist of 11 short answer type questions (Q. no. 8 to 18) carrying three (3) marks each. Answer of each question should be given with in 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 section A and B) carrying 5 marks each. Answer of each question should be given with in 150-200word. 4×5=20 Marks

SECTIONWISE DISTRIBUTION OF QUESTIONS AND MARKS

Type of Questions	Marks of per Question	No. of Questions	Section-wise Distribution of Questions		Total Marks
			Section-A	Section-B	
Objective Type	1 mark	07	3	4	7
Short Answer Type	3marks	11	6	5	33
Essay Type	5marks	04	2	2	20
Total Questions		22	11	11	60

SYLLABUS (THEORY)

PART-A

1. History of Modren Period of Hindustani Music.
2. Detailed knowledge of the following instruments:-Sitar,Tabla.
3. Time Theory of Ragas.
4. Definition of the following music terms:-
Varna, kan, meend, mizrab, jhalla, chikari, gamak, soot, krintan, zamjama, Shudh, chyalag, sankeeran raags.
5. Vadak ke Gun our Dosh.
6. Definition and Principles of Thaats. Ten Thaats of Pandit Bhatkhande.
Comparision between raags and thats rules.
7. (a) Importance of taal in music

- (b) Music and other Fine-Arts
8. Contribution towards music by the following scholars:-
- (a) Ustad Allaadin Khan
 - (b) Sh. Nikhil Banerjee
 - (c) Pandit Harwinder Kumar Sharma
 - (d) Ustad Vilayat Khan
9. Development of vadan styles in Indian Music.
10. Instruments used in solo performance in Indian Music.
Sitar, Sarood, Sarangi, Dilruba, Shanai, Flute, Jattarang,
Harmonium, Tabla, Dhol

PART-B

1. 10 Alankaars.
2. To write the notation of Razakhani Gats in Bhairav, Malkauns, Bhimplasi and Khamaj Raags.
3. One slow Gat in prescribed Raags.
4. One composition in Ek Taal or Jhap Taal in prescribed Raags.
5. One Dhun in any Raag.
6. Description of Rupak Tal, Ek Taal, Tilwada Taal, Dhamaar Taal, Sultal and Jhap Taal with Ekgun and Dugun layakaries.
7. Knowledge of the structure of your Instrument.

STRUCTURE OF QUESTION PAPER (PRACTICAL)

Time: 20 Minuties

30 Marks

There should not be more than 9 students in a batch of practical examination. The examiner will set the question paper on the spot. While setting the question paper in practical examination, the examiner must consider the syllabus in theory and will follow the following instructions.

1. Demonstration/performance of any one Raag out of the prescribed syllabus. The student will do the choice of the Raags. It will be for 4 minutes and shall carry 7½ marks.
2. Demonstration/performance of one Raag out of the prescribed syllabus. The examiner will do the choice of the Raag. It will be for 4 minutes and shall carry 7½ marks.
3. Demonstration/performance of Taals in Ikgun and Dugun layakaries by hand. It will be for 4 minutes and shall carry 5 marks.
4. Recognition of one Taal and one Raag out of the prescribed Taals and Raags in syllabus. It will be for 4 minutes and will carry 5 marks.
5. Demonstration /performance regarding Alankara/ Dhun. It will be for 4 minutes and carry 5 marks.

SYLLABUS (PRACTICAL)

1. One Drut Gat with short Alaap, Toras and Jhalla in each of the following Raags.
 - i. Bhairav
 - ii. Malkauns
 - iii. Bhimplasi
 - iv. khamaaj
2. One slow Gat with short Alaap and Toras in any of the prescribed Raags in the syllabus.
3. Ability to demonstrate Ek taal, Tilwara Taal, Dhamaar taal, Sultal and jhap taal by hand with reciting bols in Ikgun and Dugun layakari.
4. Ability to play one gat in Ek Taal or Jhap Taal.
5. Ten Alankars.
6. One Dhun in any Raag.

Note:- The book Published and Prescribed by the Punjab School Education Board:-

Sangeet Vadan-12 (Instrumental)

CLASS-XII
29. MUSIC (TABLA)

Time: 3 Hrs
Time: 20 mints (per student)

Theory: 60 Marks
Practical: 30 Marks
CCE: 10 Marks
Total: 100 Marks

STRUCTURE OF QUESTION PAPER (THEORY)

1. The question paper will comprise of 22 questions in total.
2. All questions will be compulsory to attempt.
3. 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. 7×1=7 Marks

Part-II will consist of 11 short answer type questions (Q. no. 8 to 18) carrying three (3) marks each. Answer of each question should be given with in 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 section A and B) carrying 5 marks each. Answer of each question should be given with in 150-200word. 4×5=20 Marks

SECTIONWISE DISTRIBUTION OF QUESTIONS AND MARKS

Type of Questions	Marks of per Question	No. of Questions	Section-wise Distribution of Questions		Total Marks
			Section-A	Section-B	
Objective Type	1 mark	07	3	4	7
Short Answer Type	3marks	11	6	5	33
Essay Type	5marks	04	2	2	20
Total Questions		22	11	11	60

SYLLABUS (THEORY)

PART-A

1. Definition of the following :- Uthan, Peshkar, Paran, Tehai, Duppli, Tippali, Rela, Nagma.
2. Principles of formation of Taal.
3. Essay on importance of Laya and Taal in music and importance of Tabla in music. .
4. Comparative study of Tabla and Pakhawaj Vadan.
5. Taal and its ten Parans.
6. Brief introduction of Gharanas of Tabla.
7. Principles of Tabla solo Vadan.
8. Biographical sketches of the following Tabla maestro :
 - a. Pt. Kanthe Maharaz
 - b. Pt. Shamta Prasad
 - c. Ustad Zakir Hussian

d. Ustad Laxaman Singh Seen.

PART-B

1. Introduction and notation of the following Taals with Ikgun, Dugun, Tigun and Chougun Layakaries :(i) Rupak Taal (ii) Jhap Taal (iii) Ek Taal (iv) Deepchandi (v) Teen Taal (vi) Punjabi Theka (Chhota Teen Taal)
2. Description and comparison of the following Taals :
 - a. Teen Taal- Punjabi Theka
 - b. Deepchandi- Dhamar Taal
 - c. Rupak Taal- Tivra Taal
3. Notation of the following material in Teen Taal, Jhap Taal, Rupak Taal: Peskhar, Kayada, Tehai, Paran, Rela and Tukra.
4. Recognition of Teen Taal, Deepchandi, Punjabi Theka, Dhamar, Rupak, Tivra Taals through some Bols.
5. Notation of Nagama in prescribed Taals.

STRUCTURE OF QUESTION PAPER (PRACTICAL)

There should not be more than 9 students in a batch of practical examination. The examiner will set the question paper on the spot. While setting the question paper in practical examination, the examiner must consider the syllabus in theory and will follow the following instructions.

1. Demonstration/performance of any one Taal out of the prescribed syllabus. The choice of the Taal will be of the student. It will be for 6 minutes and shall carry 7½ marks.
2. Demonstration/performance of any one Taal out of the prescribed syllabus. The choice will be of the examiner. It will be for 4 minutes and shall carry 7½marks.
3. Demonstration/performance of Padhant (pronouncing the Bols of Taal) in Ikgun and Dugun layakaries. It will be for 4 minutes and carry 5 marks.
4. Students will be given 4 varans of prescribed Taals. He/she will have to recognize any two, It will be for 2 minutes and will carry 5 marks.
5. Any two laggies with Tihai in Rupak Taal. It will be for 4 minutes and carry 5 marks.

SYLLABUS (PRACTICAL)

1. System solo performance of the following Taals: Ek Taal and Teen Taal, Teewra Taal, Rupak Taal.
2. Few Laggis in Rupak Taal.
3. To play Thekas in Ikgun and Dugun Layakaries in Deepchandi, Teen Taal and Chhota Teen Taal, Rupak, Jhap Taal and Ek Taal.
4. Recognition of Taals.
5. Tuning of Tabla.
6. Ability to play Nagama on Harmonium in any Taal of your syllabus.
7. Ability to Padhant showing Tali and Khali of Taals in Ikgun and Dugun Layakaries.

CLASS-XII
30. DANCE

Time: 3 Hrs
Time: 20 mints (per student)

Theory: 60 Marks
Practical: 30 Marks
CCE: 10 Marks
Total:100 Marks

STRUCTURE OF QUESTION PAPER (THEORY)

1. The question paper will comprise of 22 questions in total.
2. All questions will be compulsory to attempt.
3. 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. 7×1=7 Marks

Part-II will consist of 11 short answer type questions (Q. no. 8 to 18) carrying three (3) marks each. Answer of each question should be given with in 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 section A and B) carrying 5 marks each. Answer of each question should be given with in 150-200word. 4×5=20 Marks

SECTIONWISE DISTRIBUTION OF QUESTIONS AND MARKS

Type of Questions	Marks of per Question	No. of Questions	Section-wise Distribution of Questions		Total Marks
			Section-A	Section-B	
Objective Type	1 mark	07	3	4	7
Short Answer Type	3marks	11	6	5	33
Essay Type	5marks	04	2	2	20
Total Questions		22	11	11	60

SYLLABUS (DANCE)

PART-A

1. Knowledge of the Kathak dance.
2. Definition of the following terms: Laya, Taal, Theka, Paran, Chakkardaraparan, Kavit, Gat-nikas.
3. Knowledge of Hasta Mudras (Sanyukta) based on Abhinaya Darpana.
4. Knowledge of the following Dances :
 - i. Bharata Natayam
 - ii. Lasya
5. Life sketch of Udey Shanker.
6. Knowledge of Rasa and Bhava and their application in Dance.
7. Knowledge of folk dance of Punjab.

PART-B

8. Definition and comparative study of Teen Taal and Jhap Taal.
9. Ability to write the following material in prescribed Taals given below:
 - i. Teen Taal: One Thaat, one Amad, Two Tukras, one Salami, one Paran, two Toras, one Kavit.
 - ii. Jhap Taal: One Thaat, one Tehai, one Amad, one salami, one Tora.
10. Ability to recognize the Layakari (Ikgun, Dugun, Tigun and Chougun) through some Bole from Teen Taal and Jhap Taal.

STRUCTURE OF QUESTION PAPER (PRACTICAL)

There should not be more than 9 students in a batch of practical examination. The examiner will set the question paper on the spot. While setting the question paper in practical examination, the examiner must consider the syllabus in theory and will follow the following instructions.

1. A systematic dance performance in any Taal out of the prescribed syllabus as per the choice of student. It will be for 6 minutes and shall carry 7½ marks.
2. A systematic dance performance in any Taal out of the prescribed syllabus as per the choice of the examiner. It will be for 4 minutes and will carry 7½ marks.
3. Demonstration/performance of any Taal in Ikgun, Dugun layakaries. It will be for 4 minutes and shall carry 5 marks.
4. Student will be given some Bols out of the prescribed Taals. He/She will have to recognize two out of these. It will be for 2 minutes and will carry 5 marks.
5. Padhant of prescribed Taal and layarkries on hand. It will be for 4 minutes and carry 5 marks.

SYLLABUS (PRACTICAL)

Systematic performance of the following Taals:

I. (a). Teen Taal:

- (i) Four varieties of advance Tatkar, in Ikgun and Dugun layakaries.
- (ii) One Thaat
- (iii) One Amad
- (iv) two simple Tukras
- (v) One Salami
- (vi) One Paran
- (vii) One Kavit.

(b) Jhap Taal:-

- (i) One Thaat
- (ii) one Tehai
- (iii) one Amad
- (iv) one Salami
- (v) one Tora.

II. Padhant of Thekas of Teen Taal and Jhap Taal in Ikgun, Dugun and Chougun layakaries by hand.

III. Padhant of all material in Teen Taal by hand.

CLASS-XII
31. PHILOSOPHY

Time: 3 Hrs

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

STRUCTURE OF QUESTION PAPER

1. All questions are compulsory.
2. The question paper will comprise of 4 sections A, B, C and D of four questions with 32 sub parts to be attempted.
3. **All units of the syllabus should be given adequate representation in the question paper.**

SECTION- A

Objective Type Questions: Question No. 1 will have ten Parts (I to X) and each Part will carry 1 mark. This section will include questions with one word answer/ fill in the blank/ true or false/multiple choice type questions.

1×10= 10

SECTION- B

Very Short Answer Type Questions: Question No. 2 comprises of 10 sub parts (questions I to X) carrying 2 marks each. Answer to each question should be in about 20-30 words. All Questions are compulsory. **2×10= 20**

SECTION- C

Short Answer Type Questions: Question No. 3 comprises of 6 sub parts (I to VI) out of which students have to attempt any 6 question carrying 4 marks each. Answer to each question should be in about 50-60 words.

4×6= 24

SECTION- D

Long Answer Type Questions: Question No. 4 comprises of 6 sub parts (questions I to VI) carrying 6 marks each. Answer to each question should be in about 100-150 words. Three will be 100% internal choice in these questions.

6×6= 36

Note:- Weightage to each unit must be given in each type of questions as appropriate.

Typology of Questions	Number of questions	Marks Division	Division of Syllabus		Total marks
			Part A Unit 1,2,3,4	Part B Unit 5,6,7,8	
A. Objective Type Questions	10	01 mark	5	5	10 Marks
B. Very Short Answer questions	10	02 marks	5	5	20 Marks
C. Short Answer Questions	06	04 marks	3	3	24 marks
D. Long Answer Type Questions	06	06 marls	3	3	36 Marks
Total	32	---	16	16	90

SYLLABUS (PART-A)

- UNIT I** Scientific Method: its nature; difference between this method and common sense thinking.
- UNIT II** Hypothesis: Its meaning, its place in scientific method; formulation of a relevant hypothesis.
- UNIT III** Explanation: its meaning, popular and scientific explanation, kinds and limits of scientific explanation.
- UNIT IV** Propositions: Meaning /traditional, analysis of propositions, Various divisions of propositions. Inference: Its Nature and Kinds-Immediate Inference, opposition, observation and conversion
- UNIT V** Knowledge: Sources of Knowledge, Nature and theories of truth.
- UNIT VI** Schools of Philosophy: Idealism and Materialism.
- UNIT VII** Indian Philosophy: Its nature and salient features.
- UNIT VIII** (a) The Philosophy of Bhagwad-Gita-Karma Yoga.
(b) Sikhism: Its salient features; concepts of Sewa

CLASS-XII
32. EDUCATION

Time: 3 Hrs

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

STRUCTURE OF QUESTION PAPER

1. All questions are compulsory.
2. The question paper will comprise of 4 sections A, B, C and D of four questions with 32 sub parts to be attempted.
3. **All units of the syllabus should be given adequate representation in the question paper.**

SECTION- A

Objective Type Questions: Question No. 1 will have ten Parts (I to X) and each Part will carry 1 mark. This section will include questions with one word answer/ fill in the blank/ true or false/multiple choice type questions.

1×10= 10

SECTION- B

Very Short Answer Type Questions: Question No. 2 comprises of 10 sub parts (questions I to X) carrying 2 marks each. Answer to each question should be in about 20-30 words. All Questions are compulsory. **2×10= 20**

SECTION- C

Short Answer Type Questions: Question No. 3 comprises of 6 sub parts (I to VI) out of which students have to attempt any 6 question carrying 4 marks each. Answer to each question should be in about 50-60 words. **4×6= 24**

SECTION- D

Long Answer Type Questions: Question No. 4 comprises of 6 sub parts (questions I to VI) carrying 6 marks each. Answer to each question should be in about 100-150 words. Three will be 100% internal choice in these questions. **6×6= 36**

Note:- Weightage to each unit must be given in each type of questions as appropriate.

Typology of Questions	Number of questions	Marks Division	Division of Syllabus		Total Marks
			Part A Unit 1to2	Part B Unit 3 to 4	
A. Objective Type Questions	10	01 mark	5	5	10 Marks
B. Very Short Answer questions	10	02 marks	5	5	20 Marks
C. Short Answer Questions	06	04 marks	3	3	24 marks
D. Long Answer Questions	06	06 marls	3	3	36 Marks
Total	32	---	16	16	90

SYLLABUS

Principles and Techniques of Education.

- UNIT-I** Education in Ancient and Modern India. Education and Society: Relation between the two.
- UNIT-II**
- (a) Educational Structure: Primary to University (10+2+3):
 - (b) Teaching Aids- Chart, Models, Computers, Radio & Television, Chalk, Black Board, Posters, Cartoon, and Projections.
 - (c) Methods of Teaching: Lecture-method, Discussion-method, Project- method, Demonstration- method.
 - (d) Teacher, his qualities and preparation.
- Unit-III** Educational Psychology: Its meaning and Scope: its importance for the teacher.
- Unit-IV** Management of Education:
- (a) District Level : D.E.O Secondary
: D.E.O Primary
: B.P.E.O.
 - (b) State Level : Education Ministry, Education Directorates, College Secondary Education, Primary Education
Allied organizations: (a) S.C.E.R.T., (b) S.I.S.E.
 - (c) Centre Level : Ministry of Education, Central Secretariat and allied institutions. N.C.E.R.T, C.B.S.E. and U.G.

CLASS-XII
33. GEOGRAPHY

Time: 3 Hrs

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

Structure of Question Paper

1. First question shall have 8 sub-parts, all objective type compulsory questions from Unit-II to Unit-IV. Each question shall carry one mark and shall be answered in a few words or a sentence or may be of multiple choice. Atleast two questions to be set from each unit i.e. from Unit-II to Unit-IV. 1×8=8
2. Second question shall have 8 sub-parts, each carrying 2 marks. Answer of each question shall run into 2 to 3 sentences. Atleast one question shall be set from Unit-I to Unit-V. 2×8=16
3. Third question shall contain 8 sub-parts, out of which 5 shall be to be answered in 60 to 80 words. One question shall be set from Unit-I to Unit-V atleast, in this part. 4×5=20
4. Question no. 4 to 6 shall be pairs of questions covering all the five units and one from each pair shall be answered in 150 to 250 words by the examinee. 6×3=18
5. Question No.7 & 8 relate to map work related to India.(4 marks for labeling and 4 marks for marking on outline map of India) 2×4=8

Note : Blind students shall answer the questions related to map work in lieu of map filling.

Forms of Questions	Objective type Multiple choice Questions	Short Answer-I	Short Answer-II	Map work	Long Answer Questions
Number of Questions	08	08	05	08	03
Marks allotted	08	16	20	08	18
Percentage of Marks	12.5	23	27	12.5	25

Syllabus

Unit-I

Nature & Scope of Geography & its branches:

- Geographical thoughts, Brief introduction of determinism and possibilism, Radical and post modern geography.
- Contribution of A.V. Humboldt, Carl Ritter, Paul Vidal de La Blache and E.C. Sample and all branches of Geography in brief.

Unit-II

Human resources:

- Population; Distribution, Density & Growth, Age-sex ratio, Urbanisation, Literacy
- Determinants of population change, Geography of Indian Diaspora, Migration Causes & consequences Demographic transition theory
- Human development concept; Selected indicators, International comparison, Punjab's rank in national HDI
- Human Settlement: Rural & Urban, Urbanisation in India and its impact, Distribution of Mega cities, concept of smart cities, Growth pole and Growth centres.

Unit-III

Economic Geography: Types of Economic Activities

Primary Activities:

- Concept of changing trends; gathering; pastoral; mining, subsistence agriculture, Modern trends in agriculture with special reference to Punjab, Organic farming.
- Geographical distribution of major crops in India (Wheat, Rice, Tea, Coffee, Jute, Sugarcane)

Secondary Activities

- Concept, Manufacturing types (House hold, Small scale, Large scale, Agro based and Mineral based industries with special reference to Punjab) Distribution of Metallic (Iron-ore, Copper, Bauxite, Maganese), Non-metallic, Conventional (Coal, Petroleum, Natural Gas), Non-Conventional (solar, wind, tidal) resources and their conservation
- Industries: Types, Distribution of selective industries (Iron & steel, Cotton textile, Sugar, Pharmaceutical Petrochemical and Knowledge based Industries) FDI and its impact on Indian industries, Industrial Corridors, Dedicated Freight Corridors)

Tertiary Activities:

- Quaternary activities, Quinary Services, People engaged in tertiary industries, A case study from Punjab.

Unit-IV

Transport, Communication & Trade

- Land transport; Roads (North-South & East-West corridors, Golden Quadrilateral), Railways; Transcontinental Railways, New Numbering Scheme of National highways.

- Water Transport; Inland, Major ocean routes in the world.
- Air Transport, Oil and Natural Gas pipelines (TAPI, HBJ, Indo-Iranian Naharkatia-Nunmati-Barauni, Bathinda-Kandla pipeline, L.P.G. Gaspipelines)
- International and National trade, Sea-port and their Hinterlands and major airports)
- International trade bases and changing patterns, International Organisations with special reference to India, Role of WTO in International trade.

Unit-V

- Geographical Perspective on selective issues and problems
- Environmental pollution; Land, water, air
- Geography of superlatives in India

Unit-VI (Practical Work)

- Types of data: Primary, Secondary & other sources
- Representation of data; Construction of diagrams; Bars, Circle and Flow charts
- Thematic Maps; Construction of dot, choropleth and isopleths with base map of Punjab
- Data analysis and generation of diagrams graphs with the help of computers
- Field studies, Land use, Market survey, Traffic Flow survey
- Satellite Communication, Geographic Information System and Global Positioning system (GPS) definitions only.

CLASS-XII
34. DEFENCE STUDIES

Time : 3 Hrs

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

STRUCTURE OF QUESTIONS PAPER (THEORY)

1. There will be 20 Questions in all.
2. All questions are compulsory.
3. There will be 10 questions of one Mark each & these questions will be objective type. 10×1= 10 Marks
4. There will be 8 questions of 5 Marks each. 8×5=40 Marks
5. There will be 2 questions of 10 Marks each with internal choice. 2×10=20 Marks

SYLLABUS

Group- A

1. Elements of Strategy: Various definitions, distinctions between grand strategy, strategy and tactics type of strategy.
2. Armed forces of India's neighbours with special reference to Pakistan, China, Nepal, Bangladesh, and Sri Lanka.
3. Higher Defence Organization in India
 - (a) Defence Minister's committee.
 - (b) Chief of Staff s Committee.
4. Elements of Evolution of tactics: means of collection and interpreting information troop movements, operational and verbal orders, attack, defence and withdrawal.
5. Higher Defence organizations in India.
 - (a) Defence Committee of the Cabinet.
 - (b) National Defence Council.
 - (c) Powers of the President in relation to armed forces.
6. Organization of India's Armed forces.
 - (a) Equivalent ranks in the Armed forces.
 - (b) Role and Characteristic of Army, Navy and Air Force.
 - (c) Army: Integrated Headquarters, static and field formation, Elementary knowledge of the following weapons.
5.56mm INSAS Rifle, 7.62mm MMG, LMG 9 mm Carbine, Grenade, Morter, Rocket Launcher, Antitank weapons : Tanks and APC
 - (d) Navy: Headquarters, Commands, Type of Ships and Submarines.
 - (e) Air Force, Headquarters, Commands, Types of service, Air Crafts of India.

PAPER-II
VIVA VOCE (PRACTICAL)

Note : In viva voce paper the lecture will be of 10 Marks and interview of 10 Marks. Each student will give a lecture in presence of audience for 5-10 minutes on the topic of his own choice out of the topics in the syllabus.

1. Lecture : Each student will be required to give a talk (and not paper reading for 5-10 minutes) on any one of the under mentioned topics.

- (a) Strategy of indirect approach.
- (b) Elements of tactics.
- (c) Role of Navy in India's Defence.
- (d) Static and field formations.
- (e) Armed Forces of Pakistan.
- (f) Types of Service Air Crafts of India.
- (g) Armed Forces of china.

2. Interview : The examiner may ask the candidate any questions from topics mentioned in the list of topics for lecture.

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. 9 to 16) 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. 17 to 23) 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. 24 to 26) 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	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 11 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

HOME SCIENCE

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

[\(http://www.vhai.org/ceo/filmsforchange.php\)](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

[\(http://www.vhai.org/ceo/filmsforchange.php\)](http://www.vhai.org/ceo/filmsforchange.php)

Films:

- Aparajita
- Anant

Oriented videos: • Neo-Natal

- Aaj Ki Na Samajhi Kal Ki Pareshani

CLASS-XII
37. MODELLING AND SCULPTURE

ਮਾਡਲਿੰਗ ਅਤੇ ਬੁੱਤਕਾਰੀ

ਸਮਾਂ: 8 ਘੰਟੇ

ਪ੍ਰਯੋਗੀ: 90 ਅੰਕ
ਸੀ.ਸੀ.ਈ.: 10 ਅੰਕ
ਕੁੱਲ: 100 ਅੰਕ

- ਨੋਟ:- 1. ਇਹ ਪੇਪਰ ਪੂਰਨ ਪ੍ਰਯੋਗੀ ਹੈ ਅਤੇ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਰਾਹੀਂ ਬੋਰਡ ਵੱਲੋਂ ਨਿਯਤ ਡੇਟਸ਼ੀਟ ਅਨੁਸਾਰ ਲਿਆ ਜਾਵੇਗਾ।
2. ਮਿੱਟੀ ਜਾਂ ਪੀ.ਓ.ਪੀ. ਪ੍ਰੀਖਿਆਰਥੀ ਖੁਦ ਨਾਲ ਲੈਕੇ ਆਵੇਗਾ।

	ਸਮਾਂ	ਸੈਸ਼ਨ
ਪਹਿਲਾ ਪੇਪਰ	4 ਘੰਟੇ	ਸਵੇਰ
ਦੂਜਾ ਪੇਪਰ	4 ਘੰਟੇ	ਸ਼ਾਮ

STRUCTURE OF QUESTION PAPER

ਪ੍ਰਸ਼ਨ-ਪੱਤਰ ਦੀ ਰੂਪ ਰੇਖਾ

1. ਇਹ ਪੇਪਰ ਪ੍ਰਯੋਗੀ ਡੇਟ ਸ਼ੀਟ ਅਨੁਸਾਰ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਵੱਲੋਂ ਲਿਆ ਜਾਵੇਗਾ। ਇਸਦੇ 38 ਅੰਕ ਹੋਣਗੇ। ਇਹ ਸਵੇਰ ਦੇ ਸੈਸ਼ਨ ਵਿੱਚ ਲਿਆ ਜਾਵੇਗਾ। ਇਸ ਦਾ ਸਮਾਂ ਚਾਰ ਘੰਟੇ ਹੋਵੇਗਾ। ਇਸ ਵਿੱਚ ਪਸ਼ੂ, ਪੰਛੀ, ਜਾਨਵਰ ਅਤੇ ਮਨੁੱਖੀ ਸਰੀਰ ਦੇ ਬੁੱਤ ਤਿਆਰ ਕੀਤੇ ਜਾਣਗੇ।
2. ਦੋਨਾਂ ਸੈਸ਼ਨਾਂ ਦੇ ਵਿਚਕਾਰ ਇੱਕ ਘੰਟੇ ਦੀ ਛੁੱਟੀ ਹੋਵੇਗੀ। ਉਸ ਦੌਰਾਨ ਸੈਸ਼ਨਲ ਵਰਕ ਚੈੱਕ ਕਰਕੇ ਮੁਲਾਂਕਣ ਕੀਤਾ ਜਾਵੇਗਾ।
3. ਦੂਜੇ ਸ਼ਾਮ ਦੇ ਸੈਸ਼ਨ ਵਿੱਚ ਮਨੁੱਖੀ ਸਿਰ ਦਾ ਬੁੱਤ ਤਿਆਰ ਕਰਵਾਇਆ ਜਾਵੇਗਾ। ਇਹ ਕੰਮ ਚਾਰ ਘੰਟੇ ਵਿੱਚ ਪੂਰਾ ਕੀਤਾ ਜਾਵੇਗਾ। ਇਸਦੇ 38 ਅੰਕ ਹੋਣਗੇ।
4. ਸਾਰੇ ਪੇਪਰਾਂ ਦਾ ਮੁਲਾਂਕਣ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਕਰਕੇ ਨੰਬਰ ਸੂਚੀਆਂ ਸਬੰਧਤ ਅਧਿਕਾਰੀ ਨੂੰ ਆਪਣੇ ਹਸਤਾਖਰ ਕਰਕੇ ਮੋਹਰ ਬੰਦ ਲਿਫ਼ਾਫ਼ੇ ਵਿੱਚ ਭੇਜੇਗਾ।
5. ਸਾਰੇ ਸਾਲ ਵਿੱਚ ਘੱਟੋ-ਘੱਟ 20 ਵਸਤੂਆਂ ਤਿਆਰ ਕੀਤੀਆਂ ਜਾਣਗੀਆਂ, ਜਿਸਦੇ 14 ਅੰਕ ਹੋਣਗੇ।

ਨੋਟ:- ਮਿੱਟੀ ਜਾਂ ਪੀ.ਓ.ਪੀ. ਪ੍ਰੀਖਿਆਰਥੀ ਖੁਦ ਨਾਲ ਲੈਕੇ ਆਵੇਗਾ।

ਪਾਠ-ਕ੍ਰਮ

ਭਾਗ-1

ਬਨਾਵਟ

ਅੰਕ: 38

1. ਮਿੱਟੀ ਜਾਂ ਪਲਾਸਟਰ ਆਫ ਪੈਰਿਸ (P.O.P) ਦੁਆਰਾ ਪੰਛੀ, ਜਾਨਵਰ ਅਤੇ ਮਨੁੱਖੀ ਸਰੀਰ ਦੇ ਬੁੱਤ ਤਿਆਰ ਕਰਨੇ।

ਭਾਗ-II

ਪੋਰਟਰੇਟ ਸਟਡੀ (Portrait Study)

ਅੰਕ: 38

1. ਮਨੁੱਖੀ ਸਿਰ ਦਾ ਮਿੱਟੀ ਜਾਂ ਪਲਾਸਟਰ ਆਫ ਪੈਰਿਸ (P.O.P) ਦੁਆਰਾ ਬੁੱਤ ਤਿਆਰ ਕਰਨਾ। ਜਿਸ ਵਿੱਚ ਚਿਹਰੇ ਦਾ ਅਨੁਭਵ ਪ੍ਰਗਟ ਹੋਵੇ।

ਭਾਗ-III

ਸੈਸ਼ਨਲ ਵਰਕ

ਅੰਕ: 14

ਸਾਰੇ ਸਾਲ ਵਿੱਚ ਤਿਆਰ ਕੀਤੀਆਂ ਘੱਟੋ-ਘੱਟ ਵੀਹ ਵਸਤੂਆਂ ਜੋ ਕਿ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਚੈੱਕ ਕਰੇਗਾ ਅਤੇ ਅੰਕ ਲਾਵੇਗਾ। ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਦੁਆਰਾ ਵਿਸ਼ੇ ਸਬੰਧੀ ਜੁਥਾਨੀ ਪ੍ਰਸ਼ਨ ਵੀ ਪੁੱਛੇ ਜਾ ਸਕਦੇ ਹਨ।

CLASS-XII
38.GEOMETRICAL PERSPECTIVE AND ARCHITECTURAL DRAWING

ਜਿਊਮੈਟਰੀਕਲ ਪਰਸਪੈਕਟਿਵ ਅਤੇ ਆਰਕੀਟੈਕਚਰਲ ਡਰਾਈਂਗ

ਸਮਾਂ: 4 ਘੰਟੇ

ਥਿਊਰੀ: 90 ਅੰਕ
ਸੀ.ਸੀ.ਈ.: 10 ਅੰਕ
ਕੁੱਲ: 100 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੀ ਰੂਪ-ਰੇਖਾ
ਭਾਗ - 1

(ਜਿਊਮੈਟਰੀਕਲ ਅਤੇ ਵਿੱਥ ਸੋਝੀ ਡਰਾਈਂਗ)

ਕੁੱਲ ਅੰਕ: 45

ਜਿਊਮੈਟਰੀਕਲ ਡਰਾਈਂਗ:

ਅੰਕ: 16

ਪੇਪਰ ਸੈੱਟਰ ਇਸ ਭਾਗ ਵਿੱਚੋਂ ਚਾਰ ਪ੍ਰਸ਼ਨ ਸੈੱਟ ਕਰੇਗਾ ਜੋ 8-8 ਅੰਕਾਂ ਦੇ ਹੋਣਗੇ, ਜਿਹਨਾਂ ਵਿੱਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਜ਼ਰੂਰੀ ਹੋਣਗੇ। ਇਸ ਭਾਗ ਵਿੱਚ ਤਿਕੋਣਾਂ, ਵਰਗ, ਆਇਤ, ਪਤੰਗਰੂਪੀ ਚਤੁਰਭੁਜ, ਸਮਾਨਾਂਤਰ ਚਤੁਰਭੁਜ, ਚੱਕਰਾਂ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ, ਬਹੁਭੁਜਾਂ ਅਤੇ ਤਿਕੋਣ, ਵਰਗ, ਚੱਕਰ ਤੇ ਅੰਤਰੀ ਅਤੇ ਬਾਹਰੀ ਪ੍ਰਸ਼ਨਾਂ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ ਅਤੇ ਚੱਕਰੀ ਵਿੱਧੀ ਦੁਆਰਾ ਅੰਡਕਾਰ ਬਣਾਉਣ ਦੇ ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ।

ਠੋਸ ਅਤੇ ਨਿੱਗਰ ਜਿਊਮੈਟਰੀ:

ਅੰਕ: 9

ਇਸ ਭਾਗ ਵਿੱਚ ਇੱਕ ਹੀ ਪ੍ਰਸ਼ਨ ਸੈੱਟ ਕੀਤਾ ਜਾਵੇਗਾ ਉਹ ਹੀ ਕਰਨਾ ਜ਼ਰੂਰੀ ਹੋਵੇਗਾ। ਇਸ ਵਿੱਚ ਠੋਸ ਜਿਵੇਂ ਘਣ ਖੇਤਰ, ਮੀਨਾਰ, ਘਣ, ਬੇਲਣ, ਸ਼ੰਕੂ, ਗੋਲਾ ਅਤੇ ਚੌ ਮੁੱਖਾ ਦੇ ਤਲ ਅਤੇ ਮੱਥਾ ਬਣਾਉਣ ਦੇ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨੇ ਹੋਣਗੇ। ਠੋਸਾਂ ਦੇ ਕਾਟ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ ਵੀ ਆਉਣਗੇ। ਇਹ ਪ੍ਰਸ਼ਨ 9 ਅੰਕਾਂ ਦਾ ਹੋਵੇਗਾ।

ਵਿੱਥ ਸੋਝੀ ਡਰਾਈਂਗ:

ਅੰਕ: 20

ਇਸ ਭਾਗ ਵਿੱਚ ਇੱਕ ਹੀ ਪ੍ਰਸ਼ਨ ਸੈੱਟ ਕੀਤਾ ਜਾਵੇਗਾ ਜੋ ਕਰਨਾ ਜ਼ਰੂਰੀ ਹੋਵੇਗਾ। ਇਸਦੇ ਵੀਹ ਅੰਕ ਹੋਣਗੇ। ਇਸ ਵਿੱਚ ਘਣ, ਚੌਕੀ, ਪਟੜਾ, ਡਰਾਈਂਗ ਬੋਰਡ ਦੇ ਵਿੱਥ ਸੋਝੀ ਚਿੱਤਰ ਬਣਾਉਣੇ ਹੋਣਗੇ, ਜਿਹਨਾਂ ਦੀ ਮਿਣਤੀ ਪੇਪਰ ਸੈੱਟਰ ਵੱਲੋਂ ਦਿੱਤੀ ਜਾਵੇਗੀ।

ਅੰਕਾਂ ਦੀ ਵੰਡ:-

ਵਿੱਥ ਸੋਝੀ ਦੀ ਬਣਾਵਟ	= 09 ਅੰਕ
ਠੀਕ ਮਿਣਤੀਆਂ ਅਤੇ ਠੀਕ ਡਰਾਈਂਗ	= 05 ਅੰਕ
ਸਕੇਲ ਡਰਾਈਂਗ	= 03 ਅੰਕ
ਹਲਕੀਆਂ ਤੇ ਗੂੜ੍ਹੀਆਂ ਰੇਖਾਵਾਂ	= 03 ਅੰਕ
ਕੁੱਲ	= 20 ਅੰਕ

ਭਾਗ - 2

ਕੁੱਲ ਅੰਕ: 45

ਆਰਕੀਟੈਕਚਰਲ ਡਰਾਈਂਗ:

ਇਸ ਭਾਗ ਵਿੱਚ ਪੇਪਰ ਸੈੱਟਰ ਵੱਲੋਂ ਦਿੱਤੇ ਗਏ ਦੋ ਮੰਜ਼ਿਲੇ ਮਕਾਨ ਦਾ ਮੱਥਾ, ਪਾਸਾ ਅਤੇ ਤਲ ਬਣਾਇਆ ਜਾਵੇਗਾ।

ਅੰਕਾਂ ਦੀ ਵੰਡ:-

ਮੱਥਾ (ELEVATION)	= 13 ਅੰਕ
ਪਾਸਾ (SIDE)	= 13 ਅੰਕ
ਤਲ (PLAN)	= 13 ਅੰਕ
ਲਿਖਾਈ ਅਤੇ ਪੈਮਾਨਾ (W&S)	= 06 ਅੰਕ
ਕੁੱਲ	= 45 ਅੰਕ

(ਪਾਠ-ਕ੍ਰਮ)

ਜਿਊਮੈਟਰੀਕਲ, ਵਿੱਥ ਸੋਝੀ ਅਤੇ ਆਰਕੀਟੈਕਚਰਲ ਡਰਾਈਂਗ

ਸਮਾਂ: 4 ਘੰਟੇ

ਅੰਕ:100

ਅੰਕਾਂ ਦੀ ਵੰਡ

ਥਿਊਰੀ	ਅੰਕ:90
ਪਾਸ ਅੰਕ	ਅੰਕ:30
ਸੀ. ਸੀ. ਈ.	ਅੰਕ:10
ਪਾਸ ਅੰਕ	ਅੰਕ:03
ਕੁੱਲ ਅੰਕ	ਅੰਕ:100
ਪਾਸ ਅੰਕ	ਅੰਕ:33

ਭਾਗ-1

Geometrical and Perspective Drawing

ਜਿਊਮੈਟਰੀਕਲ ਅਤੇ ਵਿੱਥ ਸੋਝੀ ਡਰਾਈਂਗ

ਕੁੱਲ ਅੰਕ:45

1. ਜਿਊਮੈਟਰੀਕਲ ਡਰਾਈਂਗ

ਅੰਕ:16

ਨੋਟ:- ਇਸ ਭਾਗ ਵਿੱਚ ਚਾਰ ਪ੍ਰਸ਼ਨ ਸੈੱਟ ਕੀਤੇ ਜਾਣਗੇ ਜਿਨ੍ਹਾਂ ਵਿੱਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨੇ ਲਾਜ਼ਮੀ ਹੋਣਗੇ।

- ਤਿਕੋਣਾਂ ਦੀ ਬਨਾਵਟ ਸਬੰਧੀ ਪ੍ਰਸ਼ਨ ਜਿਸ ਵਿੱਚ ਆਧਾਰ, ਉਚਾਈ, ਆਧਾਰ ਕੋਣ ਅਤੇ ਸ਼ੀਰਸ਼ ਕੋਣ ਦਿੱਤੇ ਹੋਣ।
- ਵਰਗ, ਆਇਤ, ਪਤੰਗ ਰੂਪੀ ਚਤੁਰਭੁਜ ਅਤੇ ਸਮਾਨਾਂਤਰ ਚਤੁਰਭੁਜ ਸਬੰਧੀ ਪ੍ਰਸ਼ਨ
- ਚੱਕਰ ਦੀਆਂ ਛੋਹਤ ਰੇਖਾਵਾਂ ਅਤੇ ਚੱਕਰ ਦੇ ਅੰਦਰ ਅਤੇ ਬਾਹਰ ਚੱਕਰ ਖਿੱਚਣ ਸਬੰਧੀ ਪ੍ਰਸ਼ਨ।
- ਅੰਤਰੀ ਅਤੇ ਬਾਹਰੀ ਆਕਾਰਾਂ ਸਬੰਧੀ ਪ੍ਰਸ਼ਨ। ਜਿਵੇਂ ਤਿਕੋਣ, ਵਰਗ ਸਮਾਨਾਂਤਰ ਚਤੁਰਭੁਜ, ਸਮ ਪੰਜਭੁਜ, ਸਮ ਛੇਭੁਜ, ਸਮ ਅੱਠਭੁਜ ਦੇ ਅੰਦਰ ਅਤੇ ਬਾਹਰ ਸਮਰੂਪੀ ਆਕਾਰ ਬਣਾਉਣੇ।
- ਚੱਕਰੀ ਵਿਧੀ ਦੁਆਰਾ ਅੰਡਕਾਰ (Ellipse) ਬਣਾਉਣੇ। ਜਿਹਨਾਂ ਦਾ ਵੱਡਾ ਅਤੇ ਛੋਟਾ ਧੁਰਾ ਦਿੱਤਾ ਗਿਆ ਹੈ।

2. ਠੋਸ ਅਤੇ ਨਿੱਗਰ ਜਿਊਮੈਟਰੀ

ਅੰਕ:9

ਠੋਸ ਜਿਵੇਂ ਘੱਣ ਖੇਤਰ, ਮੀਨਾਰ, ਘਣ, ਬੇਲਣ, ਸ਼ੰਕੂ, ਗੋਲਾ ਅਤੇ ਚੌਮੁੱਖਾ ਦੇ ਤਲ ਅਤੇ ਮੱਥਾ ਬਣਾਉਣੇ।
ਜਦ ਕਿ ਇਹ XY ਰੇਖਾ ਦੇ ਸਮਾਨਾਂਤਰ ਅਤੇ XY ਰੇਖਾ ਨਾਲ ਦਿੱਤਾ ਹੋਇਆ ਕੋਣ ਬਣਾਉਂਦੇ ਹੋਣ।
ਲੇਟਵੀਂ ਧਰਾਤਲ ਅਤੇ ਖੜੀ ਧਰਾਤਲ ਵੱਲੋਂ ਠੋਸ ਦੇ ਕੱਟਵੇਂ ਰੂਪ ਦੇ ਤਲ ਅਤੇ ਮੱਥਾ ਬਣਾਉਣੇ।
ਠੋਸ ਜਿਹਨਾਂ ਦੇ ਪ੍ਰਸ਼ਨ ਪ੍ਰੀਖਿਆ ਵਿੱਚ ਆਉਣਗੇ ਉਹ ਤਿਕੋਣ, ਵਰਗ, ਬਹੁਭੁਜਾ ਅਤੇ ਚੱਕਰ ਹਨ।

3. ਵਿੱਥ ਸੋਝੀ ਡਰਾਈਂਗ (Perspective Drawing) (ਜ਼ਰੂਰੀ)

ਅੰਕ:20

ਕਿਸੇ ਘਣ, ਚੌਕੀ ਅਤੇ ਪਟੜੇ ਅਤੇ ਡਰਾਈਂਗ ਬੋਰਡ ਦਾ ਵਿੱਥ ਸੋਝੀ ਚਿੱਤਰ ਬਣਾਉਣਾ ਜਿਸ ਦੀਆਂ ਮਿਣਤੀਆਂ ਲੰਬਾਈ, ਚੌੜਾਈ ਅਤੇ ਉਚਾਈ ਦਿੱਤੀਆਂ ਹੋਈਆਂ ਹੋਣ।

ਕਾਗਜ਼ ਦਾ ਸਾਈਜ਼:- 1/4 ਭਾਗ (35ਸੈਂ: ਮੀ:×25ਸੈਂ: ਮੀ:)

ਭਾਗ-II

Architectural Drawing

(ਆਰਕੀਟੈਕਚਰਲ ਡਰਾਈਂਗ) (ਜ਼ਰੂਰੀ)

ਕੁੱਲ ਅੰਕ:45

ਦਿੱਤੇ ਹੋਏ ਦੋ ਮੰਜ਼ਲੇ ਮਕਾਨ ਦਾ ਮੱਥਾ, ਪਾਸਾ ਅਤੇ ਤਲ ਬਣਾਉਣਾ। ਮਕਾਨ ਵਿੱਚ ਰਸੋਈ, ਗੁਸਲਖਾਨਾ ਸ਼ਾਮਲ ਹੋਵੇ।

ਕਾਗਜ਼ ਦਾ ਸਾਈਜ਼:- 1/2 ਭਾਗ (50ਸੈਂ: ਮੀ:×35ਸੈਂ: ਮੀ:)

ਨੋਟ:- ਇਹ ਪੇਪਰ ਪ੍ਰੀਖਿਆ ਭਵਨ ਵਿੱਚ ਆਮ ਪੇਪਰਾਂ ਵਾਂਗ ਸੁਪਰਡੈਂਟ ਵੱਲੋਂ ਲਿਆ ਜਾਵੇਗਾ।

CLASS-XII
39. COMMERCIAL ART

ਕਮਰਸ਼ੀਅਲ ਆਰਟ

ਸਮਾਂ: 8 ਘੰਟੇ

ਪ੍ਰਯੋਗੀ: 90 ਅੰਕ
ਸੀ.ਸੀ.ਈ.: 10 ਅੰਕ
ਕੁੱਲ: 100 ਅੰਕ

ਨੋਟ: ਇਹ ਪੇਪਰ ਪੂਰਨ ਪ੍ਰਯੋਗੀ ਹੈ ਅਤੇ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਰਾਹੀਂ ਬੋਰਡ ਵੱਲੋਂ ਨਿਯਤ ਡੇਟਸ਼ੀਟ ਅਨੁਸਾਰ ਲਿਆ ਜਾਵੇਗਾ।

	ਸਮਾਂ	ਸੈਸ਼ਨ
ਪਹਿਲਾ ਪੇਪਰ	4 ਘੰਟੇ	ਸਵੇਰ
ਦੂਜਾ ਪੇਪਰ	4 ਘੰਟੇ	ਸ਼ਾਮ

ਪ੍ਰਸ਼ਨ-ਪੱਤਰ ਦੀ ਰੂਪ ਰੇਖਾ

1. ਇਹ ਪੇਪਰ ਪ੍ਰਯੋਗੀ ਡੇਟ ਸ਼ੀਟ ਅਨੁਸਾਰ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਵੱਲੋਂ ਲਿਆ ਜਾਵੇਗਾ। ਪਹਿਲੇ ਸਵੇਰ ਦੇ ਸੈਸ਼ਨ ਵਿੱਚ ਲੇ-ਆਊਟ ਡਿਜ਼ਾਇਨਿੰਗ ਸਬੰਧੀ ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ। ਇਹ ਪੇਪਰ ਚਾਰ ਘੰਟੇ ਦਾ ਹੋਵੇਗਾ। ਇਸਦੇ ਕੁੱਲ 38 ਅੰਕ ਹੋਣਗੇ। ਇਸ ਵਿੱਚ ਤਿੰਨ ਪ੍ਰਸ਼ਨ ਸੈੱਟ ਕਰਨੇ ਹੋਣਗੇ। ਵਿਦਿਆਰਥੀ ਵੱਲੋਂ ਕੋਈ ਇੱਕ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨਾ ਹੋਵੇਗਾ।
2. ਦੂਜੇ ਸ਼ਾਮ ਦੇ ਸੈਸ਼ਨ ਵਿੱਚ ਪੋਸਟਰ ਡਿਜ਼ਾਇਨਿੰਗ ਦਾ ਪੇਪਰ ਹੋਵੇਗਾ। ਇਹ ਪੇਪਰ ਵੀ ਉਪਰੋਕਤ ਅਨੁਸਾਰ 38 ਅੰਕਾਂ ਦਾ ਹੋਵੇਗਾ। ਇਸ ਦਾ ਸਮਾਂ ਚਾਰ ਘੰਟੇ ਹੋਵੇਗਾ। ਇਸ ਵਿੱਚ ਕੋਈ ਦੋ ਪ੍ਰਸ਼ਨ ਸੈੱਟ ਕੀਤੇ ਜਾਣਗੇ। ਪ੍ਰੀਖਿਆਰਥੀ ਵੱਲੋਂ ਕੋਈ ਇੱਕ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨਾ ਹੋਵੇਗਾ।
3. ਵਿਚਕਾਰ ਇੱਕ ਘੰਟੇ ਦੇ ਸਮੇਂ ਵਿੱਚ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ, ਪ੍ਰੀਖਿਆਰਥੀਆਂ ਦੇ ਸੈਸ਼ਨਲ ਕੰਮ ਦਾ ਮੁਲਾਂਕਣ ਕਰੇਗਾ। ਇਸਦੇ 14 ਅੰਕ ਹੋਣਗੇ।
4. ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਸਾਰੇ ਪੇਪਰਾਂ ਦਾ ਮੁਲਾਂਕਣ ਕਰਕੇ ਨੰਬਰ ਸੂਚੀਆਂ ਸਬੰਧਤ ਅਧਿਕਾਰੀ ਨੂੰ ਮੋਹਰ ਬੰਦ ਲਿਫਾਫੇ ਵਿੱਚ ਭੇਜੇਗਾ।
5. ਡਰਾਈਂਗ ਸ਼ੀਟਾਂ ਅਤੇ ਪੇਟਿੰਗ ਦਾ ਹੋਰ ਸਾਰਾ ਸਮਾਨ ਪ੍ਰੀਖਿਆਰਥੀ ਖੁਦ ਨਾਲ ਲੈ ਕੇ ਆਵੇਗਾ।

ਪਾਠ-ਕ੍ਰਮ

ਭਾਗ-1

ਲੇ-ਆਊਟ ਡਿਜ਼ਾਇਨਿੰਗ

ਅੰਕ: 38

1. ਕਾਲੇ ਅਤੇ ਚਿੱਟੇ ਰੰਗਾਂ ਵਿੱਚ ਲੈਟਰ ਪੈਡ ਤਿਆਰ ਕਰਨਾ।
2. ਮੈਗਜ਼ੀਨ ਕਵਰ ਜਾਂ ਬੁੱਕ ਕਵਰ ਰੰਗਾਂ ਦੁਆਰਾ ਤਿਆਰ ਕਰਨੇ।
3. ਸਾਧਾਰਨ ਮੋਨੋ ਗ੍ਰਾਮ ਬਣਾਉਣੇ।

ਪੇਪਰ ਦਾ ਮਾਪ:- ਪੂਰੇ ਪੇਪਰ ਦਾ 1/4 ਭਾਗ (35 ਸੈਂ: ਮੀ:×25ਸੈਂ: ਮੀ:)

ਭਾਗ-II

ਪੋਸਟਰ ਡਿਜ਼ਾਇਨਿੰਗ

ਅੰਕ: 38

1. ਦਿੱਤੇ ਹੋਏ ਵਿਸ਼ੇ ਤੇ ਲਿਖਾਈ ਕਰਕੇ ਪੋਸਟਰ ਤਿਆਰ ਕਰਨੇ ਅਤੇ ਸਬੰਧਤ ਰੰਗਾਂ ਨਾਲ ਸਜਾਉਣਾ।
2. ਛੋਟੇ ਬੱਚਿਆਂ ਦੀਆਂ ਪੁਸ਼ਤਕਾਂ ਦੇ ਕਵਰ ਤਿਆਰ ਕਰਨੇ। ਇਹ ਕਵਰ ਕਾਲੇ, ਚਿੱਟੇ ਜਾਂ ਰੰਗਦਾਰ ਤਿਆਰ ਕੀਤੇ ਜਾ ਸਕਦੇ ਹਨ।

ਪੇਪਰ ਦਾ ਮਾਪ:- ਪੂਰੇ ਪੇਪਰ ਦਾ 1/4 ਭਾਗ (35ਸੈਂ: ਮੀ:×25ਸੈਂ: ਮੀ:)

ਭਾਗ-III

ਅੰਕ: 14

ਸੈਸ਼ਨਲਵਰਕ:- ਸਾਰੇ ਸਾਲ ਵਿੱਚ ਤਿਆਰ ਕੀਤੀਆਂ ਘੱਟੋ-ਘੱਟ ਵੀਹ ਆਈਟਮਾਂ ਜੋ ਕਿ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਚੈਕ ਕਰੇਗਾ ਅਤੇ ਅੰਕ ਲਾਵੇਗਾ।

ਨੋਟ:- ਡਰਾਈਂਗ ਸ਼ੀਟਾਂ ਅਤੇ ਪੇਟਿੰਗ ਦਾ ਹੋਰ ਸਾਰਾ ਸਮਾਨ ਪ੍ਰੀਖਿਆਰਥੀ ਖੁਦ ਲੈ ਕੇ ਆਵੇਗਾ।

CLASS-XII
40. DRAWING AND PAINTING

ਡਰਾਇੰਗ ਅਤੇ ਚਿੱਤਰਕਲਾ

ਸਮਾਂ: 8 ਘੰਟੇ

ਪ੍ਰਯੋਗੀ: 90 ਅੰਕ

ਸੀ.ਸੀ.ਈ.: 10 ਅੰਕ

ਕੁੱਲ: 100 ਅੰਕ

ਨੋਟ: ਇਹ ਪੇਪਰ ਪੂਰਨ ਪ੍ਰਯੋਗੀ ਹੈ ਅਤੇ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਰਾਹੀਂ ਬੋਰਡ ਵੱਲੋਂ ਨਿਯਤ ਡੇਟਸ਼ੀਟ ਅਨੁਸਾਰ ਲਿਆ ਜਾਵੇਗਾ।

	ਸਮਾਂ	ਸੈਸ਼ਨ
ਪਹਿਲਾ ਪੇਪਰ	4 ਘੰਟੇ	ਸਵੇਰ
ਦੂਜਾ ਪੇਪਰ	4 ਘੰਟੇ	ਸ਼ਾਮ

STRUCTURE OF QUESTION PAPER

ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੀ ਰੂਪ ਰੇਖਾ

1. ਇਹ ਪੇਪਰ ਪ੍ਰਯੋਗੀ ਡੇਟਸ਼ੀਟ ਅਨੁਸਾਰ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਵੱਲੋਂ ਲਿਆ ਜਾਵੇਗਾ। ਪਹਿਲਾਂ ਸਵੇਰ ਦੇ ਸੈਸ਼ਨ ਵਿੱਚ ਸਕੈਚਿੰਗ, ਫੁੱਲਾਂ ਦੀ ਚਿੱਤਰਕਾਰੀ, ਡਿਜ਼ਾਈਨ ਅਤੇ ਕੁਦਰਤੀ ਦ੍ਰਿਸ਼ ਦਾ ਪੇਪਰ ਲਿਆ ਜਾਵੇਗਾ। ਇਸਦਾ ਸਮਾਂ ਚਾਰ ਘੰਟੇ ਹੋਵੇਗਾ। ਕੋਈ ਇੱਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਹੋਵੇਗਾ। ਇਸਦੇ 38 ਅੰਕ ਹੋਣਗੇ।
2. ਸ਼ਾਮ ਦੇ ਸੈਸ਼ਨ ਵਿੱਚ ਮਾਡਲ ਡਰਾਇੰਗ (Still Life) ਦਾ ਪੇਪਰ ਹੋਵੇਗਾ। ਮਾਡਲ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਵੱਲੋਂ ਸੈੱਟ ਕੀਤਾ ਜਾਵੇਗਾ। ਮਾਡਲ ਦੇ ਪਿੱਛੇ ਡਰਾਪਰੀ (ਪਰਦਾ) ਸੈੱਟ ਕੀਤੀ ਜਾਵੇਗੀ। ਮਾਡਲ ਦਾ ਸਮਾਨ ਕੇਂਦਰ ਕੰਟਰੋਲਰ ਵੱਲੋਂ ਉਪਲੱਬਧ ਕਰਵਾਇਆ ਜਾਵੇਗਾ। ਇਸਦਾ ਸਮਾਂ ਚਾਰ ਘੰਟੇ ਹੋਵੇਗਾ। ਇਸਦੇ 38 ਅੰਕ ਹੋਣਗੇ।
3. ਵਿਚਕਾਰ ਇੱਕ ਘੰਟੇ ਦੇ ਸਮੇਂ ਵਿੱਚ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ, ਪ੍ਰੀਖਿਆਰਥੀ ਦੇ ਸੈਸ਼ਨਲ ਕੰਮ ਦਾ ਮੁਲਾਂਕਣ ਕਰੇਗਾ। ਇਸਦੇ 14 ਅੰਕ ਹੋਣਗੇ। ਪ੍ਰੀਖਿਅਕ ਕੀਤੇ ਕੰਮ ਅਨੁਸਾਰ ਅੰਕ ਦੇਵੇਗਾ।
4. ਸਾਰੇ ਪੇਪਰ ਦਾ ਮੁਲਾਂਕਣ ਕਰਕੇ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਨੰਬਰ ਸੂਚੀਆਂ ਸਬੰਧਤ ਅਧਿਕਾਰੀ ਨੂੰ ਆਪਣੇ ਹਸਤਾਖਰ ਕਰਕੇ ਭੇਜੇਗਾ।

ਨੋਟ:- ਡਰਾਇੰਗ ਸ਼ੀਟਾਂ ਅਤੇ ਪੇਟਿੰਗ ਦਾ ਹੋਰ ਸਾਰਾ ਸਮਾਨ ਪ੍ਰੀਖਿਆਰਥੀ ਖੁਦ ਲੈ ਕੇ ਆਵੇਗਾ।

ਪਾਠ-ਕ੍ਰਮ

ਭਾਗ-1

(ਸਕੈਚਿੰਗ ਅਤੇ ਬਨਾਵਟ)

ਅੰਕ: 38

ਮਨੁੱਖੀ ਸ਼ਰੀਰ, ਜਾਨਵਰ, ਪਸ਼ੂ ਅਤੇ ਪੰਛੀਆਂ ਦੇ ਕੁਦਰਤੀ ਦ੍ਰਿਸ਼ ਅਤੇ ਚਿੱਤਰ ਬਣਾਉਣੇ।

ਜਾਂ

ਇੱਕ ਫੁੱਲਦਾਨ ਵਿੱਚ ਫੁੱਲ ਇੱਕਠੇ ਕਰਕੇ ਇਹਨਾਂ ਦੀ ਚਿੱਤਰਕਾਰੀ ਕਰਨੀ।

ਜਾਂ

ਕੋਈ ਕੁਦਰਤੀ ਦ੍ਰਿਸ਼ ਬਣਾਉਣਾ ਜਿਸ ਵਿੱਚ ਦਰਿਆ ਝੀਲ, ਘਰ, ਚੌਪੜੀ, ਦਰਖਤ, ਪਹਾੜ ਅਤੇ ਅਸਮਾਨ ਦਰਸਾਏ ਜਾਣ।

ਜਾਂ

ਕੋਈ ਆਲ ਓਵਰ ਪੈਟਰਨ, ਸਾੜੀ ਬਾਡਰ, ਪਰਦਾ ਅਤੇ ਸਿਰਹਾਣੇ ਦਾ ਨਮੂਨਾ ਬਣਾਉਣਾ।

ਪੇਪਰ ਦਾ ਮਾਪ :- 1/4 ਭਾਗ (35 ਸੈਂ:ਮੀ: × 25 ਸੈਂ:ਮੀ:)

ਭਾਗ-II

ਮਾਡਲ ਡਰਾਇੰਗ (Still Life)

ਅੰਕ: 38

ਕਿਸੇ ਚਾਰ ਵਸਤੂਆਂ ਦਾ ਚਿੱਤਰਨ ਕਰਨਾ ਅਤੇ ਇਨ੍ਹਾਂ ਵਸਤੂਆਂ ਦੇ ਪਿੱਛੇ ਡਰਾਪਰੀ (ਪਰਦਾ) ਹੋਵੇ।

ਪੇਪਰ ਦਾ ਮਾਪ :- 1/2 ਭਾਗ (35 ਸੈਂ:ਮੀ: × 55 ਸੈਂ:ਮੀ:)

ਮਾਧਿਅਮ : ਪੇਸਟਲ, ਪਾਣੀ ਜਾਂ ਤੇਲ ਵਾਲੇ ਰੰਗ

ਭਾਗ -III

ਅੰਕ: 14

ਸੈਸ਼ਨਲ ਵਰਕ:- ਸਾਰੇ ਸਾਲ ਵਿੱਚ ਤਿਆਰ ਕੀਤੀਆਂ ਘੱਟੋ-ਘੱਟ ਵੀਹ ਆਈਟਮਾਂ ਜੋ ਕਿ ਪ੍ਰਯੋਗੀ ਪ੍ਰੀਖਿਅਕ ਚੈੱਕ ਕਰੇਗਾ ਅਤੇ ਅੰਕ ਲਾਵੇਗਾ।

ਨੋਟ:- ਡਰਾਇੰਗ ਸ਼ੀਟਾਂ ਅਤੇ ਪੇਟਿੰਗ ਦਾ ਹੋਰ ਸਾਰਾ ਸਮਾਨ ਪ੍ਰੀਖਿਆਰਥੀ ਖੁਦ ਲੈ ਕੇ ਆਵੇਗਾ।

CLASS-XII
41. HISTORY AND APPRECIATION OF ART
(ਕਲਾ ਦਾ ਇਤਿਹਾਸ ਅਤੇ ਪ੍ਰਸ਼ੰਸਾ)

ਸਮਾਂ: 3 ਘੰਟੇ

ਲਿਖਤੀ: 90 ਅੰਕ
ਸੀ.ਸੀ.ਈ.: 10 ਅੰਕ
ਕੁੱਲ: 100 ਅੰਕ

STRUCTURE OF QUESTION PAPER

ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੀ ਰੂਪ ਰੇਖਾ

1. ਇਹ ਪੇਪਰ ਪ੍ਰੀਖਿਆ ਭਵਨ ਵਿੱਚ ਬਾਕੀ ਬਿਊਰੀ ਪੇਪਰਾਂ ਵਾਂਗ ਕੇਂਦਰ ਸੁਪਰਡੈਂਟ ਵੱਲੋਂ ਲਿਆ ਜਾਵੇਗਾ।
2. ਇਸ ਪੇਪਰ ਦੇ ਦੋ ਭਾਗ ਹੋਣਗੇ। ਪਹਿਲੇ ਭਾਗ ਵਿੱਚ ਪੰਜ ਪ੍ਰਸ਼ਨ ਅਤੇ ਦੂਜੇ ਭਾਗ ਵਿੱਚ ਵੀ ਪੰਜ ਪ੍ਰਸ਼ਨ ਪਾਏ ਜਾਣਗੇ। ਪਹਿਲੇ ਭਾਗ ਵਿੱਚੋਂ ਕੋਈ ਤਿੰਨ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨੇ ਹਨ ਅਤੇ ਦੂਜੇ ਭਾਗ ਵਿੱਚੋਂ ਕੋਈ ਦੋ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨੇ ਹਨ।
3. ਹਰ ਪ੍ਰਸ਼ਨ ਦੇ 18 ਅੰਕ ਹੋਣਗੇ।
4. ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਬੋਰਡ ਵੱਲੋਂ ਨਿਰਧਾਰਤ ਕੀਤੇ ਗਏ ਪਾਠਕ੍ਰਮ ਵਿੱਚੋਂ ਹੀ ਹੋਣਗੇ।
5. ਪੇਪਰ ਸੈਂਟਰ ਵੱਲੋਂ ਪੇਪਰ ਦਾ ਮੁਲਾਂਕਣ ਕਰਨ ਲਈ ਮੁੱਖ ਅਤੇ ਉਪ ਪ੍ਰੀਖਿਅਕਾਂ ਨੂੰ ਹਦਾਇਤਾਂ ਭੇਜੀਆਂ ਜਾਣਗੀਆਂ

ਪਾਠ-ਕ੍ਰਮ

ਭਾਗ-I

ਅੰਕ - 54

1. ਪੱਛਮੀ ਭਾਰਤੀ ਲਘੂ ਚਿੱਤਰਕਾਰੀ
2. ਪੱਛਮੀ ਭਾਰਤੀ ਮਿੰਨੀ ਚਿੱਤਰਾਂ ਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ ਦੱਸੋ?
3. ਪਾਲ ਸਕੂਲ
4. ਰਾਜਸਥਾਨੀ ਚਿੱਤਰਕਲਾ ਦਾ ਸਕੂਲ
5. ਪਹਾੜੀ ਚਿੱਤਰਕਾਰੀ ਸਕੂਲ
6. ਅਮਰਾਵਤੀ, ਪਲਵਾ, ਚੋਲਾ (ਕਾਂਸੀ), ਚਾਲੁਕਿਅਨ, ਅਲੋਰਾ, ਐਲੀਫੈਂਟਾ

ਭਾਗ-II

ਅੰਕ - 36

1. ਕਲਾ ਅਤੇ ਸੁੰਦਰਤਾ
2. ਭਾਰਤੀ ਚਿੱਤਰਕਲਾ ਦੇ ਛੇ ਅੰਗ
3. ਇੱਕ ਚੰਗੇ ਕਲਾਕਾਰ ਦੇ ਗੁਣ ਜਾਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ
4. ਕਲਾ ਦੀ ਸਮੱਗਰੀ ਅਤੇ ਤਕਨੀਕ
5. ਸਮਾਜ ਅਤੇ ਕਲਾ
6. ਕਲਾ ਦੇ ਕੰਮ ਦੀ ਪ੍ਰਸ਼ੰਸਾ
7. ਭਾਰਤੀ ਕਲਾ ਦੀ ਕਿਸੇ ਮੁੱਖ ਕਲਾਕ੍ਰਿਤੀ ਦੀ ਪ੍ਰਸ਼ੰਸਾ:-ਸਾਰਨਾਥ ਬੁੱਧ, ਅਸ਼ੋਕ ਸਤੰਭ ਤੇ ਪਸ਼ੂਆਂ ਦੇ ਨਮੂਨੇ, ਨਟਰਾਜ ਕਾਂਸੀ ਮੂਰਤੀ (ਚੋਲਾ)
ਬੁੱਤਕਾਰੀ, ਬੋਧੀ ਸਤਵਾ, ਪਦਮ ਪਾਣੀ (ਅਜੰਤਾ), ਮਾਂ ਤੇ ਬੱਚਾ (ਅਜੰਤਾ), ਸੋਹਣੀ ਮਹੀਵਾਲ (ਸੋਭਾ ਸਿੰਘ), ਆਫਟਰ ਬਾਥ (ਠਾਕੁਰ ਸਿੰਘ)

ਨੋਟ: ਇਹ ਪੇਪਰ ਪ੍ਰੀਖਿਆ ਭਵਨ ਵਿੱਚ ਬਾਕੀ ਬਿਊਰੀ ਪੇਪਰਾਂ ਵਾਂਗ ਕੇਂਦਰ ਸੁਪਰਡੈਂਟ ਵੱਲੋਂ ਲਿਆ ਜਾਵੇਗਾ।
ਚਿੱਤਰਕਲਾ ਅਤੇ ਬੁੱਤਤਰਾਸ਼ੀ ਸਮੇਤ ਭਾਰਤੀ ਕਲਾ ਦਾ ਇਤਿਹਾਸ।

CLASS-XII

42. ਸਰੀਰਿਕ ਸਿੱਖਿਆ ਅਤੇ ਖੇਡਾਂ

ਸਮਾਂ : 3 ਘੰਟੇ

ਬਿਊਰੀ ਭਾਗ-50 ਅੰਕ
ਪ੍ਰਯੋਗੀ ਭਾਗ - 40 ਅੰਕ
ਸੀ.ਸੀ.ਈ - 10 ਅੰਕ
ਕੁੱਲ - 100 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੀ ਰੂਪ ਰੇਖਾ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਵਿੱਚ ਕੁੱਲ 23 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ ਅਤੇ ਇਹ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਜ਼ਰੂਰੀ ਹਨ।
2. ਪ੍ਰਸ਼ਨ ਨੰਬਰ 1 ਤੋਂ 10 ਤੱਕ ਇੱਕ-ਇੱਕ ਅੰਕ ਵਾਲੇ ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ, ਇਹ ਓਬਜੈਕਟਿਵ ਟਾਈਪ ਵੀ ਹੋ ਸਕਦੇ ਹਨ ਅਤੇ ਇਹਨਾਂ ਦਾ ਉੱਤਰ 10 ਸ਼ਬਦਾਂ ਤੱਕ ਦਾ ਹੋ ਸਕਦਾ ਹੈ। $10 \times 1 = 10$ ਅੰਕ
3. ਪ੍ਰਸ਼ਨ ਨੰਬਰ 11 ਤੋਂ 15 ਤੱਕ ਦੋ- ਦੋ ਅੰਕਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦਾ ਉੱਤਰ ਲਗਪਗ 20 ਸ਼ਬਦਾਂ ਤੱਕ ਹੋ ਸਕਦਾ ਹੈ। $5 \times 2 = 10$ ਅੰਕ
4. ਪ੍ਰਸ਼ਨ ਨੰਬਰ 16 ਤੋਂ 20 ਤੱਕ ਤਿੰਨ-ਤਿੰਨ ਅੰਕਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ। ਜਿਨ੍ਹਾਂ ਦਾ ਉੱਤਰ ਲਗਪਗ 30 ਤੋਂ 50 ਸ਼ਬਦਾਂ ਤੱਕ ਹੋ ਸਕਦਾ ਹੈ। $5 \times 3 = 15$ ਅੰਕ
5. ਪ੍ਰਸ਼ਨ ਨੰਬਰ 21 ਤੋਂ 23 ਪੰਜ-ਪੰਜ ਅੰਕਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ, ਇਹਨਾਂ ਵਿੱਚ ਕੁੱਲ 5 ਪ੍ਰਸ਼ਨ ਦਿੱਤੇ ਜਾਣਗੇ ਜਿਨ੍ਹਾਂ ਵਿੱਚੋਂ ਕੁੱਲ 3 ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨੇ ਜ਼ਰੂਰੀ ਹਨ। $3 \times 5 = 15$ ਅੰਕ

ਪਾਠਕ੍ਰਮ (ਲਿਖਤੀ ਭਾਗ)

ਪਾਠ ਪਹਿਲਾ - ਸਰੀਰਿਕ ਯੋਗਤਾ

- ੳ) ਸਰੀਰਿਕ ਯੋਗਤਾ ਦਾ ਅਰਥ ਅਤੇ ਮਹੱਤਤਾ
- ਅ) ਸਰੀਰਿਕ ਯੋਗਤਾ ਦੇ ਘਟਕ (ਅੰਗ)
- ੲ) ਸਰੀਰਿਕ ਯੋਗਤਾ ਨੂੰ ਪ੍ਰਭਾਵਤ ਕਰਨ ਵਾਲੇ ਕਾਰਕ
- ੳ) ਸਰੀਰਿਕ ਯੋਗਤਾ ਦੇ ਵਿਕਾਸ ਦੇ ਸਿਧਾਂਤ

ਪਾਠ ਦੂਜਾ- ਸਿਖਲਾਈ ਦੀਆਂ ਵਿਧੀਆਂ ਅਤੇ ਹੋਰ ਸਿਧਾਂਤ

- ੳ) ਸਰੀਰ ਨੂੰ ਗਰਮਾਉਣਾ, ਠੰਡਾ ਕਰਨਾ ਅਤੇ ਇਸ ਦੇ ਸਿਧਾਂਤ
- ਅ) ਅਨੂਕੂਲਨ
- ੲ) ਆਈਸੋਮੀਟਰਿਕ, ਆਈਸੋਟੋਨਿਕ ਅਤੇ ਆਈਸੋਕਾਈਨੈਟਿਕ ਕਸਰਤਾਂ
- ੳ) ਸਰਕਟ ਸਿਖਲਾਈ
- ੲ) ਅੰਤਰਾਲ ਸਿਖਲਾਈ ਵਿਧੀ
- ਕ) ਫਾਰਟਲੇਕ ਸਿਖਲਾਈ ਦੀ ਵਿਧੀ
- ਖ) ਵਰਤੋਂ ਜਾਂ ਅਵਰਤੋਂ ਅਤੇ ਵਾਧੂ ਭਾਰਤ ਦਾ ਸਿਧਾਂਤ

ਪਾਠ ਤੀਜਾ - ਸਰੀਰਿਕ ਸਿੱਖਿਆ ਦੇ ਸਮਾਜਿਕ ਪੱਖ

- ੳ) ਵਿਭਿੰਨ ਸਮਾਜਿਕ ਸੰਗਠਨਾਂ ਦਾ ਵਿਅਕਤੀਗਤ ਅਤੇ ਸਮੂਹਿਕ ਵਿਵਹਾਰ ਉੱਪਰ ਪ੍ਰਭਾਵ
- ਅ) ਖੇਡਾਂ ਮਨੁੱਖ ਦਾ ਸਭਿਆਚਾਰਕ ਵਿਰਸਾ
- ੲ) ਸਰੀਰਿਕ ਸਿੱਖਿਆ ਵਿੱਚ ਅਗਵਾਈ ਦੀ ਸਿੱਖਿਆ ਅਤੇ ਇਸ ਦੀ ਮਹੱਤਤਾ
- ੳ) ਖੇਡ-ਕੁੱਦ ਰਾਹੀਂ ਵਿਅਕਤੀ ਅਤੇ ਸਮੂਹਾਂ ਦਾ ਸਮਾਜਿਕਰਨ
- ੲ) ਸਰੀਰਿਕ ਸਿੱਖਿਆ ਰਾਹੀਂ ਰਾਸ਼ਟਰੀ ਏਕਤਾ

ਪਾਠ ਚੌਥਾ ਅਸਮਰੱਥਾ ਦੀ ਰੋਕਥਾਮ ਅਤੇ ਮੁੜ ਵਸੇਵਾ

- ੳ) ਪਰੀਭਾਸ਼ਾ ਅਤੇ ਅਸਮਰੱਥਾ ਦੇ ਵਿਭਿੰਨ ਕਾਰਕ
- ਅ) ਸਾਧਾਰਨ ਕਿੱਤਿਆਂ ਵਿੱਚ ਪੈਦਾ ਹੋਣ ਵਾਲੀ ਅਸਮਰੱਥਾ ਅਤੇ ਕਿੱਤੇ ਸੰਬੰਧੀ ਬਿਮਾਰੀਆਂ
- ੲ) ਅਸਮਰੱਥਾ ਰੋਕਣ ਦੇ ਆਮ ਸਿਧਾਂਤ
- ੳ) ਮੁੜ-ਵਸੇਵਾ (ਪੁਨਰਵਾਸ) ਦੀ ਪਰੀਭਾਸ਼ਾ, ਖੇਤਰ ਅਤੇ ਪੁਨਰਵਾਸ ਲਈ ਉਪਲੱਬਧ ਸੇਵਾਵਾਂ

ਪਾਠ ਪੰਜਵਾਂ ਆਮ ਖੇਡ ਸੱਟਾਂ ਤੋਂ ਬਚਾਓ ਅਤੇ ਮੁੱਢਲੀ ਸਹਾਇਤਾ

- ੳ. ਮੁੱਢਲੀ ਸਹਾਇਤਾ ਦੇ ਅਰਥ ਅਤੇ ਮੁੱਢਲੇ ਸਹਾਇਕ ਦੇ ਗੁਣ
- ਅ. ਮੁੱਢਲੀ ਸਹਾਇਤਾ ਅਤੇ ਫੇਫੜਿਆਂ ਨੂੰ ਪੁਨਰ ਚਾਲੂ ਕਰਨਾ (ਸੀ ਪੀ ਆਰ) ਅਤੇ ਸਿਹਤ ਵਿਗਿਆਨ ਸਮੇਤ ਫੇਫੜਿਆਂ ਤੇ ਦਿਲ ਨੂੰ ਪੁਨਰ ਚਾਲੂ ਕਰਨਾ

- ੲ. ਹੱਡੀ ਟੁੱਟਣ ਅਤੇ ਖਿਸਕਣ ਤੇ ਮੁਢਲੀ ਸਹਾਇਤਾ
- ਸ. ਮੋਚ ਅਤੇ ਖਿਚਾਅ ਲਈ ਮੁਢਲੀ ਸਹਾਇਤਾ

ਪਾਠ ਛੇਵਾਂ ਪਰਿਵਾਰਿਕ ਜੀਵਨ ਸਬੰਧੀ ਸਿੱਖਿਆ

- ੳ. ਪਰਿਵਾਰ ਦਾ ਅਰਥ, ਕੰਮ ਅਤੇ ਸਮਾਜਿਕ ਸੰਸਥਾਵਾਂ ਦੀ ਉਪਯੋਗਤਾ
- ਅ. ਕਿਸ਼ੋਰ ਅਵਸਥਾ ਦੀਆਂ ਸਮੱਸਿਆਵਾਂ ਅਤੇ ਉਹਨਾਂ ਦਾ ਪ੍ਰਬੰਧ
- ੲ. ਬੱਚਿਆਂ ਦੇ ਕਲਿਆਣ ਵਿੱਚ ਮਾਤਾ- ਪਿਤਾ ਦਾ ਯੋਗਦਾਨ
- ਸ. ਵਿਆਹ ਅਤੇ ਪਰਿਵਾਰਿਕ ਜੀਵਨ ਦੀ ਤਿਆਰੀ

ਪਾਠਕ੍ਰਮ (ਪ੍ਰਯੋਗੀ)

ਸਮਾਂ 4 ਘੰਟੇ

ਪ੍ਰਯੋਗੀ : 40 ਅੰਕ

- ੳ) ਟਰੈਕ ਅਤੇ ਫੀਲਡ ਦੀ ਈਵੈਂਟਸ (ਲੜਕੇ ਅਤੇ ਲੜਕੀਆਂ ਲਈ) ਹਰੇਕ ਈਵੈਂਟ ਦੇ 6 ਅੰਕ ਹੋਣਗੇ।
ਹੇਠ ਲਿਖਿਆਂ ਵਿੱਚੋਂ ਕੋਈ ਦੋ ਈਵੈਂਟਸ ਇੱਕ ਟਰੈਕ ਵਿੱਚੋਂ ਅਤੇ ਇੱਕ ਫੀਲਡ ਵਿੱਚੋਂ ਚੁਣੀਆਂ ਜਾ ਸਕਦੀਆਂ ਹਨ।

ਟਰੈਕ ਈਵੈਂਟਸ :- 100 ਮੀਟਰ ਦੌੜ , 200 ਮੀਟਰ ਦੌੜ, 400 ਮੀਟਰ ਦੌੜ, 800 ਮੀਟਰ ਦੌੜ, 3000 ਮੀਟਰ ਦੌੜ ਅਤੇ ਲੜਕੀਆਂ ਲਈ 110 ਮੀਟਰ ਹਰਡਲ (ਹਰਡਲ ਦੀ ਉਚਾਈ 96.4 ਸੈ.ਮੀ. ਅਤੇ 10 ਹਰਡਲਾਂ), ਲੜਕੀਆਂ ਲਈ 100 ਮੀਟਰ (ਹਰਡਲ ਦੀ ਉਚਾਈ 76.2 ਸੈ.ਮੀ.) ਅਤੇ 8 ਹਰਡਲਾਂ, 4x100 ਮੀਟਰ (ਲੜਕੀਆਂ ਵਾਸਤੇ) ਅਤੇ 4x100 ਮੀਟਰ (ਲੜਕੀਆਂ ਵਾਸਤੇ) ਰਿਲੇਅ ਦੌੜ **6 ਅੰਕ**

ਫੀਲਡ ਈਵੈਂਟਸ:- ਹੈਮਰ ਥਰੋ, ਡਿਸਕਸ ਥਰੋ, ਜੈਵਲਿਨ ਥਰੋ, ਸ਼ਾਟ ਪੁੱਟ, ਲੰਬੀ ਛਾਲ, ਉੱਚੀ ਛਾਲ, ਤੀਹਰੀ ਛਾਲ, ਪੋਲ ਵਾਲਟ **6 ਅੰਕ**

- ਅ) ਹੇਠ ਲਿਖੇ ਦੋਨੋਂ ਗਰੁੱਪਾਂ ਵਿੱਚੋਂ ਕੋਈ ਇੱਕ-ਇੱਕ ਖੇਡ ਦੀ ਚੋਣ ਕਰਨੀ ਲਾਜ਼ਮੀ ਹੈ। ਹਰੇਕ ਖੇਡ ਦੇ 5 ਅੰਕ ਹੋਣਗੇ।

ਖੇਡਾਂ (ਲੜਕੇ ਅਤੇ ਲੜਕੀਆਂ ਲਈ)।

ਗਰੁੱਪ 1. ਹੈਂਡਬਾਲ, ਕਬੱਡੀ, ਮੁੱਕੇਬਾਜ਼ੀ, ਟੇਬਲ ਟੈਨਿਸ, ਜਿਮਨਾਸਟਿਕ, ਫੁੱਟਬਾਲ। **5 ਅੰਕ**

ਗਰੁੱਪ 2. ਬਾਸਕਟਬਾਲ, ਯੋਗ, ਗਤਕਾ, ਵਾਲੀਬਾਲ, ਐਥਲੈਟਿਕਸ, ਸਰਕਲ ਕੱਬਡੀ। **5 ਅੰਕ**

- ਸ) ਖੇਡਾਂ ਵਿੱਚ ਪ੍ਰਾਪਤੀ (ਵੱਧ ਤੋਂ ਵੱਧ 10 ਅੰਕ) ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਅੰਕ ਦਿੱਤੇ ਜਾਣਗੇ।

ਸਕੂਲ ਪ੍ਰਤੀਨਿੱਧਤਾ **2 ਅੰਕ**

ਜ਼ੋਨ ਪ੍ਰਤੀਨਿੱਧਤਾ **4 ਅੰਕ**

ਜ਼ਿਲ੍ਹਾ ਪ੍ਰਤੀਨਿੱਧਤਾ **6 ਅੰਕ**

ਰਾਜ ਪ੍ਰਤੀਨਿੱਧਤਾ **8 ਅੰਕ**

ਕੌਮੀ ਪ੍ਰਤੀਨਿੱਧਤਾ **10 ਅੰਕ**

- ਹ) ਪ੍ਰੈਕਟੀਕਲ ਕਾਪੀ, ਚਾਰਟ ਜਾਂ ਮਾਡਲ **3 ਅੰਕ**

- ਕ) ਜ਼ੁਬਾਨੀ ਪ੍ਰਸ਼ਨ-ਉੱਤਰ **5 ਅੰਕ**

ਨੋਟ : ਪ੍ਰੈਕਟੀਕਲ ਦੇਣ ਸਮੇਂ ਪ੍ਰੀਖਿਆਰਥੀ ਸਪੋਰਟਸ ਕਿੱਟ ਵਿੱਚ ਹੋਣਾ ਚਾਹੀਦਾ ਹੈ।

ਨੋਟ :- ਸਮੂਹ ਸਰੀਰਿਕ ਸਿੱਖਿਆ ਅਤੇ ਖੇਡਾਂ ਦੇ ਅਧਿਆਪਕਾਂ ਨੂੰ ਹਦਾਇਤ ਕੀਤੀ ਜਾਂਦੀ ਹੈ ਕਿ ਵਿਦਿਆਰਥੀਆਂ ਲਈ ਅਲੱਗ ਤੋਂ ਕੋਈ ਵੀ ਪ੍ਰੈਕਟੀਕਲ ਨੋਟ ਬੁੱਕ ਆਦਿ ਨਾ ਲਗਾਈ ਜਾਵੇ ਅਤੇ ਪ੍ਰੈਕਟੀਕਲ/ਕਿਰਿਆਵਾਂ ਨੂੰ ਪਾਠ-ਕ੍ਰਮ ਦੇ ਨਾਲ ਨਾਲ ਕਰਵਾਈਆਂ ਜਾਣ ਅਤੇ ਵਿਦਿਆਰਥੀਆਂ ਦੁਆਰਾ ਇਹਨਾਂ ਕਿਰਿਆਵਾਂ ਨੂੰ ਸਧਾਰਨ ਨੋਟ ਬੁੱਕ ਵਿੱਚ ਹੀ ਲਿਖ ਲਿਆ ਜਾਵੇ।

CLASS-XII
43. INSURANCE
(HUMANITIES GROUP)

Time- 3 Hrs

Theory- 90 Marks

CCE- 10 Marks

Total: 100 Marks

STRUCTURE OF QUESTION PAPER

All questions are compulsory.

The question paper will comprises 4 sections A, B, C and D of 26 questions in total. Student will attempt 24 questions. The question paper will have:

SECTION-A

Objective Type Questions: This section will include questions with one word answer/ fill in the blank/ true or false/ multiple choice type questions. Question No. 1 will have ten Parts (A to J) and each Part will carry 1 mark.

$$10 \times 1 = 10$$

SECTION-B

Very Short Answer Type Questions: This section will have 10 questions (from Q no.2 to 11) Each question will carry 2 marks. All Questions are compulsory. Answer of each question should be in 20-30 words. $10 \times 2 = 20$

SECTION-C

Short Answer Type Questions: This section will have 11 questions from 12 to 22. Each question will carry 4 marks Student have to attempt any nine out of eleven questions Each question should be in 50-60 words. $9 \times 4 = 36$

SECTION-D

Long answer Type Questions: This section will have 4 questions (23 to 36) with internal choice. Each question will carry 6 marks. Answer of each question should be in 150-200 words. There will be 100% internal choice in these questions. $6 \times 4 = 24$

Note:- Weightage to each unit must be given in each type of questions as appropriate.

Typology of Questions	Number of questions	Marks Division	Total marks	Division of Syllabus	
				Unit 1 to3	Unit 4to9
A. Objective Type Questions A to J	1 (In Parts A to J)	10 1 mark each part	10 Marks	4	6
B. Very Short Answer questions	10	02 marks each	20 Marks	4	6
C. Short Answer Questions (To be attempted = 9)	11 To be attempted 9	04 marks	36 marks	4	7
D. Long Answer Questions (with internal choice)	4	06 marks	24 Marks	2 (Internal choice)	2 (Internal choice)
Total	26		90		

SYLLABUS

Unit-1 Introduction to General Insurance:

Introduction: Origin and Growth of General Insurance: Functions of Insurance: Contracts of Insurance and Basic Principles of Insurable Interests.

Unit-2 Fire Insurance:

1. Introduction: Origin and Object of Fire Insurance and scope of cover of special perils under Fire Insurance.
2. Standard Fire Policy and Conditions.
3. Different Types of Fire Policies: Declaration Policy, Floating Policy for Building in course of construction: Transit Risk Policy and Loss or Profit Policy.

Unit-3 Marine Insurance:

1. Introduction: Meaning and Scope of Marine Insurance. Risk covered in Marine Insurance. Role of Lloyds Association.
2. Types of Marine Policies: Time, Voyage, Mixed, Builders Risk, Floating Policy, Inland Transit, Annual Policy, Postal and Air Policy. Duty and Profit Policy and Special Declaration Policy.
3. Classification of Losses: Recovery of Marine Losses and Claims Procedure General Average Hull insurance (G.A.H.I.)

Miscellaneous Insurance:

Unit-4 Motor Insurance:

- I. Introduction: Provisions of Motor Vehicles Acts of 1939 and 1988. Issue of Transfer and Cancellation Certificate of Insurance.
- II. Classification of Motor Vehicles: Private Car, Motor Cycles, Commercial Vehicles and miscellaneous types of vehicles.
- III. Motor Insurance Policy and Covers: Comprehensive Policy: Third Party Act Policies: Extra Benefits Cover and Additional Perils and Benefits Cover Policies.
- IV. Motor Insurance Claims:
Entitlement of Claim: Conditions of Indemnity: Settlement of Claim.
No Claim Discount. Motor Accident Claims Tribunal (M.A.C.T.)

Unit-5 Insurance of Persons:

Personal Accident (P.A.) Janta Personal Accident (J.P.A.); Gramin Personal Accident Policy (G.P.A.); Accident Policy for School Going Children group; Personal Accident Air Travel (P.A.A.T.) Insurance Policies and Health Insurance Scheme (H.I.S.)

Unit-6 Insurance of Property:

Burglary Policy Combined Fire and Theft Policy: All Risks Policy, Travelers Baggage Policy, Jewellery and Valuable Policy and Cash in Transit Policy.

Unit-7 Insurance of Liability and Interest:

Public Liability: Professional Indemnity, Different Types of Fidelity, Guarantee Insurance: Commercial, Individual, Collective and Excess Floating Policies.

Unit-8 Package Policy:

Domestic Multi-Risk: Traders Combined, Bankers Blanket, Jewellers Block, Marine-cum-Erection, Storage-cum-Erection, and Insurance Policy.

Unit-9 Loss Prevention:

Introduction: Method of Loss Prevention, Loss Prevention Association India (L.P.A.I.)

CLASS-XII**44. RURAL DEVELOPMENT AND ENVIRONMENT****Time: 3 Hrs****Theory: 90 Marks****CCE: 10 Marks****Total: 100 Marks****STRUCTURE OF QUESTION PAPER****All questions are compulsory.**

The question paper will comprise 4 sections A, B, C and D of 27 questions in total. Student will attempt 25 questions. The question paper will have:

SECTION-A

Objective Type Questions: This section will include questions with one word answer/ fill in the blank/ true or false/ multiple choice type questions. Question No. 1 will have ten Parts (A to J) and each Part will carry 1 mark.

$10 \times 1 = 10$

SECTION-B

Very Short Answer Type Questions: This section will have 12 questions (from Q no.2 to 13) Each question will carry 2 marks. All Questions are compulsory. Answer of each question should be in 20-30 words. $12 \times 2 = 24$

SECTION-C

Short Answer Type Questions: This section will have 10 questions from 14 to 23. Each question will carry 4 marks. Student have to attempt any eight out of ten questions Each question should be in 50-60 words. $8 \times 4 = 32$

SECTION-D

Long answer Type Questions: This section will have 4 questions (24 to 27) with internal choice. Each question will carry 6 marks. Answer of each question should be in 150-200 words. There will be 100% internal choice in these questions. $6 \times 4 = 24$

Note:- Weightage to each part must be given in each type of questions as appropriate.

Typology of Questions	Number of questions	Marks Division	Total marks	Division of Syllabus	
				Part -I	Part -II
A. Objective Type Questions A to J	1 (In Parts A to J)	10 1 mark each part	10 Marks	7	3
B. Very Short Answer questions	12	02 marks each	24 Marks	8	4
C. Short Answer Questions (To be attempted = 8)	10 To be attempted 8	04 marks	32 marks	7	3
D. Long Answer Questions (with internal choice)	4	06 marks	24 Marks	2 (Internal choice)	2 (Internal choice)
Total			90		

SYLLABUS

PART-1

Unit-1 Environment:

- (a) Nature and scope of Environment Education : Objective of environment studies, the need of environment studies at local, regional and national levels.
- (b) The logic behind the Holistic view of environment .Man as a culturally contributing activist either positively or passively.
- (c) Ecology: Ecological cycle and ecological principles, Relationship between Ecology and Economics, Political and Social implications of Environmental issues.

Unit-2 Geographical Features of the State (Punjab)

- (a) Physical situation: Annual rainfall, total cropped area: land under trees and forests.
- (b) Agro- climate regions: effects of weather and climate on growth, maturity and harvesting of crops,
- (c) Physical properties of the Soil, Structure and its types.

Unit-3 Conservation of Natural resources of the State (Punjab)

- (a) Land and mineral resources.
- (b) Major water and power resources.
- (c) Forest wealth of Punjab. Paucity of natural forests in the State. Forest policy of the State Govt.

Unit-4 Pollution

- (a) Environment pollution through industrial products and wastes, insecticides and pesticides.
- (b) Pollution of air and water in rural areas; various ways and means to check it.

Unit-5 Population distribution

- (a) Size and rate of growth of population: causes and effects of rapidly growing population, family welfare and other measures to check population growth.
- (b) Population Education: highlighting the problems of large families and propagating the idea of small families

PART -II

AGRICULTURE

(With special reference to Punjab)

Unit-6 Agro-industries

(a) Dairy Farming.

- (i) Importance of dairy as an industry for the rural development.
- (ii) Important Breeds of Cattle i.e. Cows, Buffaloes, Sheep, and Goats reared in the states and improvement in their breeds.
- (iii) Improvement of their yield through proper nutrients in feed and feeding stuff.
- (iv) Major animal diseases and their control.

(v) Marketing of milk products in the rural areas.

(b) Poultry Farming

(i) Importance of poultry farming as an industry for rural development

(ii) Poultry houses and equipment.

(iii) Proper feeding of poultry birds and improvement in their breeds.

(iv) Major poultry diseases and their remedies.

(v) Packing and marketing of poultry products.

(c) Piggery and Fisheries

(i) Scope of piggery and fisheries in the state.

HORTICULTURE

Unit-7 Horticulture (with special reference to Punjab)

(a) Importance of special forestry in the rural development. Economic and environment benefits of social forestry.

(b) Growing of some important trees like *Acacia* (Kikar), *Dalbergia* (Tali), Poplar and *Eucalyptus* in the rural areas and role of the state Govt. for encouraging social forestry in the villages.

(c) Fruit plants

Growing of some major fruit plants in the different parts of the State. Methods of their planting, initial care, irrigation methods and control of their diseases. Fruit marketing, and preservation.

(d) Vegetable plants

(i) Cultivation of various vegetables grown in different parts of the State.

(ii) Major vegetable diseases and their control.

(ii) Marketing of vegetables and their preservation.

CLASS-XII
45. MEDIA STUDIES

Time: 3 Hrs

Theory Paper: 70 Marks

CCE: 10 Marks

Practical: 20 Marks

Total: 100 Marks

OBJECTIVES

Communication media have undergone big changes during a couple of decades and made its importance more meaningfully and abundantly felt. This has made our society awake in era of various new concepts and phenomena such as globalization, social media, civil society, new media and so on. It is being felt that communication media are playing an important role in shaping young minds, hence introductory information and practice is to be provided to students in this subject, at this stage.

STRUCTURE OF QUESTION PAPER (THEORY)

1. The questions shall be set keeping in mind that the subject matter is for beginners.
2. There will be 30 questions in all.
3. Part-1 of the question paper shall consist of 8 questions of 1 mark each all objective type, to be set from whole of syllabus.
1×8=8
4. Part-II of the question paper shall consist of 10 short answer questions of 2 marks each. The answer to such questions may run into two to three sentences. All questions shall cover whole of the syllabus.
2×10=20
5. Part-III of the question paper shall consist of 9 questions of 4 marks each, the examinees shall attempt any 6 of them in a paragraph or two in size or length. Paper setter shall select four questions each from each unit.
4×6=24
6. Fourth part of the question paper shall contain 3 questions of 6 marks each, with 100% internal choice, atleast 3 chosen from each unit. Each answer shall run into 300 words minimum.

6×3=18

Forms of Questions	Objective type Multiple choice Questions	Short Answer-I	Short Answer-II	Long Answer Questions	Any other
Number of Questions	08	10	06	03	
Marks allotted	08	20	24	18	
Percentage of Marks	12.5	27	35.5	25	

SYLLABUS

Unit- I History and Development of Media

Group – A

1. Brief history and development of media in India,
with Special reference of Punjab
- Evolution of Print Media - Evolution of Radio - Evolution of Television
- Evolution of Cinema - Evolution of Internet.
2. History of Punjabi Journalism;
- Evolutionary period – 1850 A.D. to 1900 A.D.- 1900 A.D. to 1947 A.D.
- 1947 A.D. to 2000 A.D. – After 2000 A.D.

Group – B

3. Radio Programmes – Characteristics, Types and Impact
(Expected and Achieved)
4. T.V Programmes – Characteristics, Types and Impact.
(Expected and Achieved)
5. Script writing for Radio and Television programmes.

Unit- II Films and Cyber Journalism

Group – C

6. Indian Cinema; Types (Commercial & Art), Characteristics and Impact.
7. Punjabi Cinema; Characteristics and Impact
(Special Reference to: Nanak Naam Jahaz, Chann Pardesi, Marhi da diva, Desh hoeya Pardeis, Nabar and Semi-Punjabi films; Pinjar & Udta Punjab)
8. Cyber/Online Journalism:
 - (i) Social Networking; Facebook, Twitter, Blogging, Websites, Portal, Instagram
 - (ii) Communication through Cell phones; Whatsapp, SMS

Group-D

9. Media Advertising; Selling and Marketing products through advertising.
10. Introduction to Media ethics.
11. Basic terminology and use reference materials.

Viva-Voce (Practical)

Time: 3 Hrs

Marks: 20

Instructions for Examiners and Examinees:

1. Printed material or aired programmes: Each student shall have to send their articles, features and letters to various newspapers or magazine and (Or) they may take part in any of the radio programmes. They shall have to maintain record of their practical work. Printed/Broadcasted/Telecasted materials in accordance with syllabus shall be assessed out of maximum 6 marks.

2. Teleboard Display and news reading. Display of teleboard and putting the candidate any questions out of topics mentioned in syllabus shall also be awarded out of maximum 6 marks.

Viva: The examiner may ask the candidate questions on visit to any Radio or T.V station and Current Affairs related to running academic session period. 8 marks

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: There will be one theory paper consisting of total 26 questions.

1. Question no.1 to 8 will be of 1 mark each. There will be 4 questions of the objective type such as yes/no, multiple choice questions, fill in the blanks.
2. Question no.9 to 16 will be of 2 marks each. There will be 3 numerical questions of 2 marks each.
3. 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. These questions should not be lengthy.
4. 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).
5. Questions paper should cover all the syllabus.
6. No question or topic should be repeated in the question paper.
7. 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.
8. All 3 sets must be of equal standard and difficulty level questions.
9. At the end of each question, paper setter must write detailed distribution of marks of each sub-question.
10. 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.
11. Language used should be clearly understood & specific.
12. Time and length limit of paper should be kept in mind.

13. Time and length limit of paper should be kept in mind while setting the paper.
14. Questions paper should be made to according to knowledge, understanding and applications part marks distribution.

THEORY

Unit-1: Electrostatics

Electric Charges; charging by induction, basic properties of electric charge (addition of charges, quantisation of 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 due to system of charge, physical significance of electric field, electric-field lines; electric dipole, electric field due to a dipole;(on its axis,on equatorial plane)physical significance of dipoles; torque on a dipole in uniform electric field.Electric field due to continuous charge distribution.

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

Electric potential, potential difference, electric potential due to a point charge, potential due to an electric dipole with special cases for axis and equatorial plane and system of charges; equipotential surfaces,its properties,relation between field and potential electrical potential energy of a system of two point charges potential energy in external field and of electric dipole in an electrostatic field.

Conductors and insulators, electrostatics of conductors, free charges and bound charges inside a conductor. Electrostatic shielding its uses, 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, drift of electron 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 and resistivity.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 find magnetic field on the axis of a current carrying circular loop, Ampere's circuital law (no proof) and its applications to infinitely long straight wire, straight and toroidal solenoids.

Force on a moving charge in uniform magnetic and electric fields. Motion in a magnetic field, motion in combined electric and magnetic field (velocity selector) 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; magnetism and Gauss's law; Earth's magnetic field and magnetic elements, magnetisation and magnetic intensity, magnetic properties of materials, 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 and Henry experiments, magnetic flux, Faraday laws, induced emf and current, Lenz's Law and conservation of energy, motional emf, Eddy currents: Self and mutual inductance.

Alternating current, peak and rms value of alternating current/voltage; reactance and impedances; phasors, ac applied across resistance, ac applied across inductor, ac applied across capacitor, ac applied across LCR, LC oscillations, ac applied across inductor, ac applied across capacitor, ac applied across 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, refraction by lens, lenses, thin lens formula/equation, 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. Some natural phenomenon due to sunlight, 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 Huygens' Principle, 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 incoherent addition of waves and sustained interference of light. Diffraction due to a single slit, width of central maximum. Resolving power of microscopes and astronomical telescopes. Polarisation, polarization by scattering and reflection, plane polarised light -Brewster's law, uses of plane polarised light and Polaroids.

Unit-VII: Dual nature of Matter and Radiation

Electron emission, Photoelectric effect, Hertz and Lenard's observations'; experimental study of photoelectric effect, and wave theory of light, Einstein's photoelectric equation, particle nature of light, the photon, 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 modal of hydrogen atom, expression for radius, velocity and energy of electron in orbit, energy levels, line spectrum of hydrogen atom, atomic spectra, de-Broglie's explanation of Bohr's second postulate of quantization.

Composition and size of nucleus, atomic masses, isotopes, isobars; isotones. Radioactivity- alpha, beta and gamma particles/rays and their properties; radioactive decay law, alpha, beta and gamma decay. Mass-energy

relation, mass-defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear force, nuclear reactor, Nuclear energy.

Unit-XI: Electronic Devices

Classification of metal insulator and semiconductor, Energy bands in solids (qualitative idea only) conductor, insulators and Semiconductors; intrinsic and extrinsic semiconductors, p-n junction, semiconductor Diode- I-V characteristics in forward and reverse bias, diode as a rectifier, I-V characteristics of LED, photodiode, solar cell and Zener diode, Zener diode as a voltage regulator. Junction transistor, transistor action; characteristics of a common emitter transistor: transistor as an amplifier (common emitter configuration) and oscillator, digital electronics and Logic gates (OR, AND, NOT, NAND and NOR). Transistor as a switch, integrated circuits.

Unit-X: Communication Systems

Elements of a communication system (block diagram only); basic terminology Used in Electronic Communication Systems, 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.

NOTE:- TOPICS GIVEN BELOW ARE IN PRESCRIBED SYLLABUS OF P.S.E.B BUT NOT MENTIONED IN BOOK SUBSCRIBED BY PSEB. SO THESE TOPICS ARE TO BE DONE WITH STUDENTS AND PAPER WILL INCLUDE THESE TOPICS AND QUESTIONS FROM THESE TOPICS WILL NOT CONSIDERED AS OUT OF SYLLABUS.

1. Electric flux
2. Potentiometer and its applications to measure potential difference
3. Magnetic field intensity due to a magnetic dipole (Bar magnet) along its axis and perpendicular to its axis.
4. Combinations of lens and mirror
5. Proof of laws of reflection and refraction using Huygens 'Principle'.
6. Alpha-beta and gamma particles/rays and their properties.

**PHYSICS
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	<hr/> 20

PRACTICALS SYLLABUS

Experiments

SECTION-A

1. To determine resistance per unit length of a given wire by plotting a graph of potential difference versus current.
2. To find resistance of a given wire using meter bridge and hence determine the specific resistance of its material.
3. To verify the laws of combination (series/parallel) of resistance using a meter bridge.
4. To compare the emf of two given primary cells using potentiometer.
5. To determine the internal resistance of given primary cell using potentiometer.
6. 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 voetmeter).
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 1C, a resistor and a capacity from mixed collection of such items.
2. Use of multimeter to (i) identify base of transistor, (ii) distinguish between npn ad 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	36%
UNDERSTANDING	44%
APPLICATION	20%
Total	100%

7. There will be question of the objective type such as Yes/No, tick/cross, fill in the blanks, multiple choice, true/false and definition 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=2 8	T.Q=3 T.M=18	T.Q=26 T.M=70

Total Question in paper =26 including 5 choice questions

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. There will be 4 questions of the objective type such as yes/no, multiple choice questions, fill in the blanks.
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. These questions should not be lengthy.
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.
14. Time and length limit of paper should be kept in mind while setting the paper.

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.

Haloarenes: 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.

Diazonium 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.

CHEMISTRY

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/> 20 <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
- Enthalpy of dissolution of copper sulphate or potassium nitrate.
 - Enthalpy of neutralization of strong acid (HCl) and strong base (NaOH)
 - 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-



(Note: Insoluble salts excluded)

PROJECT

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

A few suggested Projects

1. 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 will be 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 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.
7. Questions in all 3 sets must be of equal standard and difficulty level.
8. At the end of each question, paper setter must write detailed distribution of marks of each sub-question.
9. Vague, questions with confusing answers and questions with many possible answers, will not be asked in the paper. In 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).

Reproductive health: Need for reproductive health and prevention of sexually transmitted diseases (STD); Birth control – Need and Methods, Contraception and Medical Termination of 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- Thalassaemia; 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 AIDS; 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.

BIOLOGY

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 (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, widow'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

Time: 3 Hours

Marks: 20

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.

Note:- The subtopics which are printed in the books published by Punjab School Education Board but are not mentioned in syllabus, should be considered as part of syllabus.

CLASS-XII
49. GEOLOGY

Time : 3 hrs
Time : 3 hrs

Theory : 60 Marks
Practical : 30 Marks
CCE: 10 Marks
Total : 100 Marks

STRUCTURE OF QUESTION PAPER (THEORY)

There will be one theory paper comprising of 28 questions. All questions will be compulsory.

Marks for each question are indicated against it.

Question Nos. 1-10 are objective type questions carrying 1 mark each. Answer to each question will be in one line or few words only. 1×10=10

Question Nos. 11-20 are very short answer type questions carrying 2 marks each. Answer to each question will be in 20-30 words. 2×10=20

Question Nos. 21-25 are short answer type questions carrying 3 marks each. Answer to each question will be in 80-100 words. 3×5=15

Question Nos. 26-28 are long answer type questions carrying 5 marks each. There will be 100% internal choice. 5×3=15

There will be no objective type questions such as yes/no, tick/cross, fill in the blanks, multiple choice, true/false etc.

The question paper should be strictly from the prescribed syllabus subject to the above mentioned guidelines.

Candidates will be provided with one answer book of 32 pages only. No extra/continuation sheet will be provided.

Tme: 3 Hours

(PRACTICAL)

Marks : 30

The examiner will set the question paper on the spot. The distribution of marks in the paper will be as follows:

1. At least 8 minerals will be given to the students for identification. Students are required to attempt/identify 4 minerals out of these. The question will carry 4 marks.
2. 8 fossils will be given to the students for identification. Student will identify 4 fossils out of these. The question will carry 4 marks.
3. The examiner will ask the student to plot an outline map of India the distribution of deposits of any two minerals. The student will attempt any one. The question will carry 6 marks.
4. The examiner will give two geographical maps for study and for the identification of their various features. Students are required to attempt any one of these two maps. The question will carry 8 marks.
5. 8 marks are reserved for notebook and record.

A group of students for practical should not be more than 20 students.

SYLLABUS (THEORY)

Time: 3 Hours

Marks: 60

1. Physical Geology:
The earth: origin, age and interior: Elementary idea.
2. Structural Geology:
Elementary ideas of folds, faults and unconformity-their identification by major features geometric classification, mountain, their types from Geosynclines to mountains.
3. Paleontology:
Fossils : their utility. Elementary idea of the evolution of life during geologic past. Morphological features of brachiopods, molluscs and trilobites. Elementary idea of Gondwana plants and Shivalik vertebrates.
4. Stratigraphy:
The story of rocks of the Precambrian Era, the Paleozoic Era, the Mesozoic Era, the Cenozoic Era. A general survey of the Indian geographic sub-divisions. Configuration of India, their board divisions.
5. Petrology:
Subdivisions of rocks: Broad classification of the various types of rocks sedimentary, Igneous and Metamorphic. General idea of the important structure found in those rocks. General idea of the mineralogical, composition of these rocks.
6. Minerology :
Minerals as constituents of rocks. General survey of the rocks : forming minerals like quartz, feldspars, micas, pyroxenes, amphiboles. Some important physical properties of these minerals.
7. Crystallography :
The crystal, its type, general morphological characters of crystals of the cubic system. General idea of the various crystallographic system.
8. Economic Geology :
Mineral wealth, its economic significance. A general survey of the economic mineral deposits of India, their distribution particularly of coal, iron, petroleum, gold, copper, lead and zinc.

PRACTICAL

Time: 3 Hours

Marks: 30

1. Reading and interpretation of geological maps and topographical sheets.
2. Preparation of cross section along given lines in the geological maps.
3. Megascopic identification of important rocks and minerals.
4. Distribution of mineral deposits in India and their location. Plotting on an outline map of India.
5. Identification of some important plants and animals (Vertebrate and invertebrate) Fossils.

CLASS-XII
50. BIOTECHNOLOGY

Time: 3 hrs
Time: 3 hrs

Theory: 60 Marks
Practical: 30 Marks
CCE: 10 Marks
Total: 100 Marks

STRUCTURE OF QUESTION PAPER THEORY

There will be one theory paper comprising of 28 questions. All questions will be compulsory.

Marks for each question are indicated against it.

Question Nos. 1-10 are objective type questions carrying 1 mark each. Answer to each question will be in one line or few words only.

Question Nos. 11-20 are very short answer type questions carrying 2 marks each. Answer to each question will be in 20-30 words.

Question Nos. 21-25 are short answer type questions carrying 3 marks each. Answer to each question will be in 80-100 words.

Question Nos. 26-28 are long answer type questions carrying 5 marks each. There will be 100% internal choice.

There will be no objective type questions such as yes/no, tick/cross, fill in the blanks, multiple choice, true/false etc.

The question paper should be strictly from the prescribed syllabus subject to the above mentioned guidelines.

Candidates will be provided with one answer book of 32 pages only. No extra/continuation sheet will be provided.

PRACTICAL

Time: 3 Hours

Marks: 30

Distribution of marks:

- | | | |
|----|-------------------|---------|
| 1. | One Experiment | 8 marks |
| 2. | Practical record | 5 marks |
| 3. | Viva on practical | 5 marks |
| 4. | Project work | |
| | (a) Write up | 6 marks |
| | (b) Viva | 6 marks |

A group of students for practical should not be more than 20 students.

SYLLABUS (THEORY)

Time: 3 Hours

Marks: 60

Unit – I: CELL CULTURE TECHNOLOGY

Chapter I: Microbial Culture and Applications.

Introduction

Microbial Culture Techniques.

Measurement and Kinetics of microbial growth.

Scale up of microbial process.

Isolation of microbial products.
Strain isolation and improvement.
Applications of microbial culture technology.
Bioethics in microbial technology.

Chapter II: Plant Cell Culture and Applications.

Introduction.
Cell and Tissue Culture Techniques.
Applications of Cell and Tissue Culture.
Gene Transfer Methods in Plants.
Transgenic in Agriculture and Molecular Breeding.
Bioethics in Plant Genetic Engineering.

Chapter III: Animal Cell Culture and Applications.

Introduction.
Animal Cell Culture Techniques.
Characterization of Cell Lines.
Scale-up of Animal Culture Process.
Applications of Animal Cell Culture.
Stem Cell Technology.
Bioethics of Genetic Engineering in Animals.

Unit – II: PROTEIN AND GENE MANIPULATION

Chapter I: Microbial Culture and Applications.

Introduction to the world of Proteins.
3-D shape of Proteins.
Structure Function relationship in Proteins.
Purification of Proteins.
Characterization of Proteins.
Protein based products.
Designing Proteins.
Proteomics.

Chapter II: Recombinant DNA Technology.

Introduction.
Tools of DNA Technology.
DNA Library.
Introduction of Recombinant DNA into host cells.
Identification of Recombinants.
Polymerase Chain Reaction (PCR).
DNA Probes.
Hybridization Techniques.
DNA Sequencing.
Site directed mutagenesis.

Chapter III: Genomics and Bioinformatics.

Introduction.

Genome sequencing projects.

Gene prediction and counting.

Genome similarity, SNP's and comparative genomics.

Functional Genomics.

Sequences and Nomenclature.

Information Sources.

Analysis using Bioinformatics, tools.

PRACTICAL

Time: 3 Hours

Marks: 30

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 internet, 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.

CLASS-XII
51. COMPUTER APPLICATION
Instructions (Theory Paper)

Time: 3 hours

Theory : 60 Marks

CCE : 10 Marks

Practical : 30 Marks

Structure of Question Paper

1. There will be four sections of Question Paper (Part- A, Part- B, Part- C and Part- D).
2. In Part- A , there will be 6 objective type question from Question No. 1 to 6 , each question will be of one marks each.
3. In Part -B ,there will be 6 Questions from Question no. 7 to 12, each questions will be of two marks.
4. In Part -C ,there will be 6 Questions from Question no. 13 to 18, each questions will be of four marks.
5. In Part -D, there will be three questions from Question no. 19 to 21 , each question will be of 6 marks.
6. All questions of Part-A , Part-B, Part-C and Part-D are compulsory. However internal choice may be given in part-D.

Sr. No	Chapter	Total Marks	marks 1 question	Marks 2 question	Marks 4 question	marks 6 question
1.	Introduction to C++	7	1	1	1	
2.	Data types variables and constant	7	1	1	1	
3.	Control statements	7	1			1
4.	Functions	6		1	1	
5.	Arrays	6		1	1	
6.	Classes and Objects	7	1	1	1	
7.	Constructor , Destructor and function overloading	6		1	1	
8.	Inheritance	7	1			1
9.	Information Technology	7	1			1
	Total Marks	60	6	12	24	18

Lesson 1: Introduction to C ++

- 1.1 Introduction to Object Orientation
- 1.2 Difference between Structured & Object Oriented Language
- 1.3 Introduction to C ++
- 1.4 Program Structure
- 1.5 Program Design & Implementation Issues
- 1.6 Character set of C++
- 1.7 C++ Basic Elements
- 1.8 Structure of a Program
- 1.9 What is meant by an Object?

Lesson 2: Data Types Variables and Constants

- 2.1 Concepts of Data Types
- 2.2 Data Types Modifiers
- 2.3 Constants
- 2.4 String Literals
- 2.5 Variables
- 2.6 Operators in C++
- 2.7 Expressions and Statements

- 2.8 Conditional Expression
- 2.9 Operators Precedence in C++
- Lesson3: Control Statements
 - 3.1 Conditional Statements
 - 3.2 Selection Statements: if and else
 - 3.3 Nested if (Nested blocks)
 - 3.4 Another selection statements: switch.
 - 3.5 Jump statement
 - 3.6 The break statement
 - 3.7 The continue statement
 - 3.8 The goto statement
 - 3.9 Exit() Function
 - 3.10 Iteration Statement (C++)
 - 3.11 Loop & Nested Loops
 - 3.12 Console I/O functions
 - 3.13 Header Files
- Lesson 4 Functions
 - 4.1 Definition of function
 - 4.2 Function Prototype
 - 4.3 Objective of using function prototype
 - 4.4 Accessing a function
 - 4.5 Passing argument to a function
 - 4.6 Default values for Parameters:
 - 4.7 THE const ARGUMENT
 - 4.8 C++ function call by value
 - 4.9 C++ function call by reference
 - 4.10 Parameter pass by reference
 - 4.11 Return statement
 - 4.12 Passing Arrays as Function Arguments in C++
 - 4.13 C++ Variable Scope
 - 4.14 Local Variables
- Lesson 5 Arrays
 - 5.1 Declaring Arrays
 - 5.2 One Dimensional Array
 - 5.3 Nature of subscript
 - 5.4 Multidimensional Array
 - 5.5 Two-Dimensional Arrays
 - 5.6 Arrays of strings
- Lesson 6: Classes and Objects
 - 6.1 Classes
 - 6.2 Access specifiers and default labels
 - 6.3 Scope of class & its members
 - 6.4 Member functions
 - 6.5 Data hiding & encapsulation
 - 6.6 Inline Functions
 - 6.7 Nesting of Member Functions
 - 6.7 Nesting of Member Functions
 - 6.8 Arrays within a class
 - 6.9 Static Function Members
- Lesson 7: Constructors, Destructors and Function Overloading
 - 7.1 Need for Constructors
 - 7.2 Default Constructors
 - 7.3 Parameterized Constructor:
 - 7.4 Default Copy Constructor

- 7.5 Dynamic Initialization Using Constructors
- 7.6 The Class Destructor:
- 7.7 Function overloading in C++
- 7.8 Steps involved in finding the best match
- Lesson 8: Inheritance
 - 8.1 Inheritance : Extending Classes
 - 8.2 Need for Inheritance
 - 8.3 Defining Derived Class
 - 8.4 Different Forms of Inheritance
 - 8.5 Visibility Modes
 - 8.6 Inherit private members of base class
- Lesson 9: Information Technology
 - 9.1 Introduction
 - 9.2 Computer Networks
 - 9.3 Network Topology
 - 9.4 Advantages & Disadvantages of Network
 - 9.5 Data Communication
 - 9.6 Transmission Channel
 - 9.7 Types of Networks

PRACTICAL

Time: 3 hrs

Marks: 30

EVALUATION SCHEME FOR PRACTICAL

1. **Programming in C++**
 There will be 4 questions / Program will be set from which candidate has to attempt any Three program/ Questions. Each Program or Question will be of 5 marks. Mark for the programming are to be given on the basis of program documentation / indentation, algorithm and result (output) 5×3=15
 Marks
2. **Viva-Voce** 10
 Marks
3. **Practical record file** 5
 Marks
 Record of at least 20 programs in C++ (with listing and Outputs) based on programming concepts and on data base concepts

SYLLABUS: All the relevant practical exercise will be based upon the relevant chapters mentioned in the Theory Syllabus.

CLASS-XII
52. ELEMENTS OF ELECTRONICS ENGINEERING

Time: 2 Hrs
Time: 3 Hrs

Theory: 40 Marks
Practical: 50 Marks
CCE: 10 Marks
Total: 100 Marks

STRUCTURE OF QUESTION PAPER (THEORY)

1. In all, 20 Questions will be set in the question paper, Out of which students will have to attempt 16 questions.
2. The question paper will comprise of three parts (Part-I, Part-II and Part- III).
3. The questions will be evenly distributed from the prescribed syllabus.

Part-I will consist of seven objective type questions carrying 1 mark each. All questions will be compulsory to attempt. The answer of each question should not exceed more than one sentence.

Part-II will consist of eight short answer type questions carrying 3 marks each. Candidate will attempt any six questions out of these. A question may have two or more parts. The answer of each question should not be more than one page of the answer sheet.

Part-III will consist of five questions carrying 5 marks each. Candidate will attempt any three questions out of these. The answer of each question should not be more than Two pages of the answer sheet.

SYLLABUS

1. Modulation:- Introduction, need of modulation, types with wave shapes, side bands production in A.M. and F.M. Phase modulation, Classification of A.M.
2. Methods : Typical circuit of A.M. modulators and their description.
3. Detection:- Introduction, needs of detection, Square law diode detection, grid leak detector, linear diode detection, anode bend detection.

Types of video detectors and their typical circuits, Phase shift discriminator, Ratio detector, Unifiers and their detailed descriptions.
4. Oscillators :- Introduction, requirements, various types, detailed circuit description of Hartley and colpits oscillators, Multi Vibrators- Classification. Astable and Biastable multivibrators and their detailed circuit description.
5. Amplifiers :- Introduction, A.F and Power amplifiers, Push-pull amplifier and their circuit description, feedback.

Amplifiers :- Voltage Feedback Amp., R.C coupled amplifier with voltage inverse feed back, feedback amp.Characteristics of Tuned voltage and power amplifiers. Op-Amplifiers (Operational Amps), their functions and uses.

PRACTICAL

STRUCTURE OF QUESTION PAPER

Time:3 Hrs

Max Marks:50

The distribution of marks will be follows:

- | | |
|-----------------------------|----------|
| 1. Viva-Voce | 10 Marks |
| 2. Note book/Sessional Work | 10 Marks |
| 3. Actual Performance | 30 Marks |

(a) Major Practical

20 Marks

The examiner shall set any three practicals from the practical Nos 1, 2, 3,11,13 and14. The candidate shall chose any two from these.The examiner will ask the student to perform any one from the two chosen by him.

(b) Minor Practical

10 Marks

The examiner shall set any three practicals from the practical Nos.4, 5, 6,7,8,9,10 and 12. The candidate shall choose any two these. The examiner will ask the student to perform any one from the two chosen by him.

SYLLABUS

1. To construct an oscillator.
2. To wire an A.P amplifier.
3. To wire a circuit from a given blue print.
4. Stage description of an A.M Radio-Receiver.
5. Fault finding in different stages of a Radio –Receiver.
6. Tuning of a Radio-Receiver with the help of signal generation.
7. Study of selectivity in a Radio-Receiver.
8. Study of sensitivity in a Radio-Receiver.
9. Study of fidelity in a Radio-Receiver.
10. Stage description of, T.V Receiver.
11. Fault finding in different stages of a T.V. Receiver.
12. Study of E.H.T.stage of a T.V.Receiver.
13. Verification of basic truth tables.
14. To construct a Flip-Flop circuit.

CLASS-XII
53. BUSINESS STUDIES – II
(COMMERCE GROUP)

Time: 3 Hrs

Theory: 65 Marks
CCE: 10 Marks
Total: 75 Marks

STRUCTURE OF QUESTION PAPER

1. The question paper will cover whole of the syllabus.
2. 20 Questions will be set in the question paper.
3. All units of the syllabus should be given adequate representation in the question paper.

Section-A

4. Question No. 1 consists of 5 sub parts carrying 1 mark each. Answer of each Part should be given in 1-15 words. Objective type questions may include questions with one word to one sentence answer/fill in the blank/true or false/multiple choice type questions.

Section-B

5. Question No. 2 to 8 will carry 2 marks each. Answer of each question should be given in 5-10 lines.

Section-C

6. Do any 7 question out of 9 questions. Question No. 9 to 17 will carry 4 marks each. Answer of each question should be given in 15-20 lines.

Section-D

7. Question No. 18 to 20 will carry 6 marks each with internal choice. Answer of each question should be given in 3-5 pages. Internal choice question should not be set from the same unit.

Detail of questions set from each unit

		Section-A	Section-B	Section-C	Section-D
Unit No.	Name of the unit	1 mark question	2marks question	4marks question	6marks question
1.	Nature & Significance of Management	1	1	1	(i) 1Q. from units 1,2,3,4 with internal choice not from same unit.
2.	Principles of Management	1			
3.	Business Environment		1	1	
4.	Planning				
5.	Organisation	1	1	1	(ii) 1Q. from units 5,6,7,8 and 9 with internal choice not from same unit.
6.	Staffing				
7.	Directing		1	1	
8.	Coordination	1	1	1	
9.	Controlling				(iii) 1Q. from units 10,11,12,13,14 with internal choice not from same unit.
10.	Business Finance	1	1	1	
11.	Financial Markets				
12.	Marketing			2	
13.	Consumer Protection		1	1	
14.	Entrepreneurship Development				
	Total	05	07	09	

SYLLABUS

PRINCIPLES AND FUNCTIONS OF MANAGEMENT

UNIT-1: NATURE AND SIGNIFICANCE OF MANAGEMENT.

- (a) Management Concept, Objectives and Importance.
- (b) Management as an Activity, Process, Discipline and as a Group.
- (c) Nature of Management as a Science, as an Art and as a Profession.
- (d) Management and Administration Comparison.
- (e) Level of Management-Top, Middle & Supervisory.
- (f) Management Function-Planning, Organizing, Staffing, Directing Coordinating and Controlling.

UNIT-2: PRINCIPLES OF MANAGEMENT

- (a) Principles of Management: Meaning, Nature & Significance.
- (b) Fayol's Principles of Management.
- (c) Taylor's Scientific Management-Principles & Techniques.

UNIT-3: BUSINESS ENVIRONMENT

- (a) Business Environment - Meaning & Importance.
- (b) Dimensions of Business Environment-Political, Economic, Social Legal and Technological.
- (c) Economic Environment in India, Impact of Govt. Policy changes on business & industry with Reference to Liberalization, Privatization and Globalization (since 1991).

UNIT-4: PLANNING

- (a) Meaning, Features, Process, Importance & Limitations.
- (b) Goals, Objectives, Policy, Procedures, Strategy, Methods, Rules, Budgets and Programmes-Meaning and Distinction.

UNIT-5: ORGANISATION

- (a) Meaning and Importance
- (b) Process of Organizing
- (c) Types of Organization: Formal, Informal, Line Organization, Line & staff and Functional Organization.
- (d) Delegation: Meaning, Elements and Importance, Barriers in the way of delegation, Step to make delegation effective.
- (e) Decentralization: Meaning and Importance
- (f) Difference between Centralization and Decentralization.
- (g) Difference between Delegation and Decentralization.

UNIT-6: STAFFING

- (a) Staffing: Meaning, Need and Importance
- (b) Steps in Staffing Process:
 - (i) Recruitment: Meaning and Sources.
 - (ii) Selection: Meaning and Process.
 - (iii) Training & Development: Meaning, Need, Types and Methods.
- (c) Methods of Wage Payment: Time Rate & Price Rate.
- (d) Types of Compensation and Incentives: Monetary & Non Monetary.

UNIT-7: DIRECTING

- (a) Directing: Meaning and Importance.
- (b) Elements of Direction:
 - i. Supervision: Meaning and Importance
 - ii. Motivation: Meaning and Importance, Maslow's hierarchy of needs: Financial & Non-Financial Incentives.
 - iii. Leadership: Meaning, Importance, Quality of a good leader.
 - iv. Communication: Meaning and Importance, Types of Communication and Barriers to Effective Communication.

UNIT-8: COORDINATION

Coordination: Meaning, Nature & Importance.

UNIT-9: CONTROLLING

- (a) Controlling: Meaning and Importance.
- (b) Relationship between Planning and Controlling.
- (c) Steps in the process of Control.

BUSINESS FINANCE AND MARKETING

UNIT-10: BUSINESS FINANCE

- (a) Meaning and Objectives of Finance Functions, Profit Maximization vs Wealth Maximization.
- (b) Financial Planning: Meaning & Importance
- (c) Capital Structure: Meaning & Factors
- (d) Working Capital: Meaning, Importance, Types & Factors affecting its requirements.

UNIT-11: FINANCIAL MARKETS

- (a) Concept of Financial Market: Money Market-Nature, Instruments.
- (b) Capital Market: Nature, and Types-Primary and Secondary Market.
- (c) Distinction between Capital Market and Money Markets.
- (d) Stock Exchange; Meaning, Functions, NSEI, OCTEI, Training Procedure.
- (e) Securities and Exchange Board of India (SEBI): Objectives and Functions.

UNIT-12: MARKETING

- (a) Marketing: Meaning, Function & Role.
- (b) Distinction between Marketing & Selling.
- (c) Marketing Mix: Concept & Elements-
 - (i) Product: Nature, Classification, Branding, Labeling and Packaging.
 - (ii) Physical Distribution: Meaning, Role, Channels of Distribution:-
Meaning, Types, Factors determining choice of channel.
 - (iii) Promotion: Meaning and Role, Promotion Mix, Role of Advertising and Personal Selling, Objectives of Advertising.
 - (iv) Price: Factors influencing Pricing.

UNIT-13: CONSUMER PROTECTION

- (a) Importance of Consumer Protection,
- (b) Consumer Rights.
- (c) Consumer Responsibilities.
- (d) Ways and Means of Consumer Protection: Consumer Awareness and legal redressal with special reference to Consumer Protection Act 1986.
- (e) Role of Consumer Organization and NGO's.

UNIT-14 ENTREPRENEURSHIP DEVELOPMENT

- (a) Entrepreneurship: Concept, Characteristics, Needs and Functions.
- (b) Process of Entrepreneurship Development.
- (c) Entrepreneurial Values, Attitudes and Motivation: Meaning & Concept.

CLASS-XII
54. ACCOUNTANCY-II
(COMMERCE GROUP)

Time: 3 Hrs

Theory: 50 Marks
Project work/ Practical: 15 Marks
CCE: 10 Marks
Total: 75 Marks

STRUCTURE OF QUESTION PAPER (THEORY)

1. The question paper will cover whole of the syllabus.
2. There are 3 sections in the question paper i.e. Section A, Section B and Section C. Section A is compulsory for all the students and students may choose only one section from Section B and Section C. Section A, Section B and Section C will be set from the Part-I and Part-II and Part-III of the syllabus respectively.
3. 12 Questions will be set in the question paper.
4. All units of the syllabus should be given adequate representation in the question paper.
5. There is no word, line or page limit for numerical questions.
6. The use of non-programmable simple calculator is allowed.

SECTION-A

7. Question No. 1 consists of 3 sub parts (1a to 1c) carrying 1 mark each. Answer of each Part should be given in 1-15 words. Objective type questions may include questions with one word to one sentence answer/fill in the blank/true or false/multiple choice type questions. Question No. 2 to 5 (Out of which 2 will be theoretical and two will be numerical) will carry 2 marks each. Answer of theoretical question should be given in 5-10 lines.
Question No. 6 consists of 4 sub parts (i,ii,iii,iv) out of which two will be numerical and two will be theoretical (Attempt any three questions out of four) Each question will carry 4 marks. Answer of theoretical question should be given in 15-20 lines.
Question No.7 will be numerical with numerical question as internal choice.This question will be set from any of the first four unit (unit1, 2, 3 and 4) and will carry 6 marks.Internal choice question will not be set from the same unit.

SECTION B AND C

8. In Question No. 8 consists of 3 sub parts (8a to 8c) carrying 1 mark each. Answer of each Part should be given in 1-15 words. Objective type questions may include questions with one word to one sentence answer/fill in the blank/true or false/multiple choice type questions. Question No. 9 and 10 (Out of which one will be theoretical and one numerical) will carry 2 marks each. Answer of theoretical question should be given in 5-10 lines.
Question No. 11 consists of 3 sub parts (i, ii, ii) out of which 2 will be numerical and one theoretical (Attempt any two questions out of three).

Each question will be 4 marks. Answer of theoretical question should be given in 15-20 lines.

Question No. 12 with internal choice between theoretical and numerical questions will be set out of units 5,6,7 and 8 and will carry 6 marks. Internal choice question will not be set from the same unit. Answer of theoretical question should be given in 3-4 pages of answer book.

Detail of questions set from each unit

Unit No.	Name of the unit	1 mark questions	2 marks questions	4 marks question	6marks questions
Section A (Part-I)					
1.	Accounting for not for profit organization	1	1	1	1 numerical question from units 1,2,3,4 with numerical question as internal choice not from same unit.
2.	Accounting for partnership	2	1	1	
3.	Reconstitution or partnership		1	1	
4.	Dissolution of partnership firm		1	1	
Section B (Part-II)					
5.	Accounting for share capital & debentures	1	1	1	1 numerical question from units 5,6,7 and 8 with theoretical question as internal choice not from same unit.
6.	Analysis of financial statements	1	1	1	
7.	Statement of changes in financial position	1		1	
OR Section C (Part-III)					
5.	Overview of computerized accounting system	1	1	1	1 numerical question from units 5,6,7 and 8 with theoretical question as internal choice not from same unit.
6.	Using computerized accounting system			1	
7.	Accounting using DBMS	1	1	1	
8.	Accounting application of electronic spread sheet	1			

SYLLABUS (THEORY)

PART-I

UNIT 1: ACCOUNTING FOR NOT-FOR-PROFIT ORGANIZATION.

1. Meaning, Basic Concepts
2. Receipts and Payments : Meaning and Concept of Fund Based and Non Fund Based Accounting
3. Preparation of Income and Expenditure Account and Balance Sheet from Receipt and Payment Account with additional information.

UNIT 2 : ACCOUNTING FOR PARTNERSHIP

2. Nature of Partnership Firm, Partnership Deed (Meaning and Importance)
3. Final Accounts of Partnership: Fixed v/s Fluctuating Capital, Division of Profit among Partners (excluding guarantee and past adjustments). Preparation of Profit and Loss Appropriation Account

UNIT 3: RECONSTITUTION OF PARTNERSHIP

1. Change in Profit Sharing Ratio among the existing Partners- Sacrificing Ratio and Gaining Ratio
2. Accounting for Revaluation of Assets and Liabilities and Distribution of Reserves and Accumulated Profits
3. Goodwill: Meaning, Nature, Factors affecting and Methods of Valuation. Average Profits, Super Profits and Capitalization Methods types of goodwill.
4. Admission of a Partner:- Effect of Admission of Partner, Change in Profit Sharing Ratio, Accounting Treatment of Goodwill (as per accounting standard 10). Revaluation of Assets and Liabilities, Reserves (Accumulated profits) and Adjustment of Capitals
5. Retirement/Death of a Partner: Change in Profit Sharing Ratio, Accounting Treatment of Goodwill, Revaluation of Assets and Liabilities, Treatment of Accumulated Profits (Reserve), Adjustment of continuing P.capitals, Payment to Retiring Partner/ Deceased Partners.

UNIT 4 : DISSOLUTION OF PARTNERSHIP FIRM

Meaning and Various Modes of Dissolution of Partnership Firm, Settlement of Accounts.Preparation of Realization Account and Related Accounts (excluding Piece Meal Distribution, Sale to a Company and Insolvency of a Partner).

NOTE: Students may choose only one Part from Part II and Part III.

PART -II

UNIT-5: ACCOUNTING FOR SHARE CAPITAL AND DEBENTURES

1. Share Capital : Meaning, Nature and Types
2. Accounting for Share Capital : Issue and Allotment of Equity and Prefer Shares, Over Subscription and under Subscription, Issue at Par Securities Premium and Calls in Advance, Calls in Arrears, Issue of Shares for Consideration other than cash.
3. Forfeiture of Shares:- Accounting Treatment, Reissue of Forfeited Shares.
4. Presentation of Share and Debenture, Capital in Company's Balance Sheet
5. Issue of Debentures:- Meaning, Types of Debentures, Issue at Par, Premium and Discount, Issue of Debentures for Consideration other than cash, Debenture Issues as Collateral Security.
6. Redemption of Debentures:- Out of proceeds of fresh issue, Accumulated Profits and Sinking Fund.

UNIT 6: ANALYSIS OF FINANCIAL STATEMENTS

1. Financial Statement of Company:- Balance Sheet of a Company in the prescribed form with major heading only (schedule VI)
2. Financial Analysis:- Meaning, Significance and Purpose, Limitations.
3. Tools for Financial Analysis:- Comparative Statements, Common Size Statement and Trend Analysis.
4. Accounting Ratio:- Meaning, Objectives and Types of Ratios:
 - (a) Liquidity Ratio :- Current Ratio, Liquidity Ratio.
 - (b) Solvency Ratio :- Debt to Equity, Total Assets to Debt, Proprietary Ratio.
 - (c) Activity Ratio: Inventory Turnover, Debtors Turnover, Creditors Turnover, Working Capital Turnover, Fixed Assets Turnover, Currents Assets Turnover.
 - (d) Profitability Ratio:- Gross Profit, Operating Profit Ratio, Net Profit Ratio, Return on Investment, Earning Per Share Dividend Per Share, Price Earning Ratio.

UNIT 7: STATEMENT OF CHANGES IN FINANCIAL POSITION

Cash Flow Statement:- Meaning and Objectives, Preparation, Adjustments related to Depreciation, Dividend, Tax , Purchase and Sale of non current assets (as per revised standard issued by ICAI)

OR

PART-III

COMPUTERISED ACCOUNTING SYSTEM

UNIT 5: OVERVIEW OF COMPUTERIZED ACCOUNTING SYSTEM

4. Concepts and Types of Computerized Accounting System(CAS)
5. Features of a Computerized Accounting System
6. Structure of a Computerized Accounting System

UNIT 6: USING COMPUTERIZED ACCOUNTING SYSTEM

4. Steps in installation of CAS, preparation of chart of accounts, codification and hierarchy of account heads.
5. Data Entry, Data Validation and Data Verification.
6. Adjustment Entries, Preparation of Financial Statements, Closing Entries and Opening Entries.
7. Security of CAS and security features generally available in CAS (Students are expected to understand and practice the entire accounting process using an accounting package).

UNIT 7: ACCOUNTING USING DATA BASE MANAGEMENT SYSTEM(DBMS)

1. Concepts of DBMS.
2. Objective in DBMS: Tables, Queries, Forms, Reports.
3. Creating Data Tables for Accounting

4. Using queries, forms and reports for generating accounting information, Applications of DBMS in generating accounting information such as shareholders records, sale reports, customers profile, suppliers profile payroll, employees' profile and petty cash register.

UNIT 8: ACCOUNTING APPLICATION OF ELECTRONIC SPREAD SHEET

1. Concept of an Electronic Spread Sheet (ES).
2. Features offered by Electronic Spread Sheet.
3. Applications of Electronic Spread Sheet in generating Accounting Information,
Preparing Depreciation Schedule, Loan Repayment Schedule, Payroll Accounting and other such applications.

Project work

Project work is for those students who choose Part-II of the syllabus.

Time: 1 ½ Hours

Max Marks 15

1. The syllabus of project work is same as prescribed for the theory paper i.e. Part I and Part II.
2. Project Note book will consist of at least one comprehensive project and some short answer questions based on the prescribed syllabus.
3. Division of Marks:

Project Note Book	3 marks
Total five questions of 3 marks each will be set.	
The students are required to attempt any three	(3×3) 9 marks
Viva Voce	3 marks

Practical

Practical is for those students who choose Part-III of the syllabus.

Time: 1 ½ Hours

Max Marks 15

1. The syllabus of project work is same as prescribed for the theory paper of part-III.
2. Practical Note book will consist of the entire practical performed in the computer laboratory based on the prescribed syllabus.
3. Division of Marks:

Practical Note Book	3 marks
The students are required to perform any two practical out of the given four of 4 marks each.	(2×4) 8 marks
Viva Voce	4 marks

CLASS-XII

**55. BUSINESS ECONOMICS & QUANTITATIVE METHODS - II
(COMMERCE GROUP)**

Time: 3 Hrs

Theory: 65 Marks

CCE: 10 Marks

Total: 75 Marks

STRUCTURE OF QUESTION PAPER

- The question paper will cover whole of the syllabus.
- 24 Questions will be set in the question paper. Student will have to attempt 22 questions.
- All units of the syllabus should be given adequate representation in the question paper.

Section-A

- Question No. 1 consists of 5 sub parts carrying 1 mark each. Answer of each part should be given in 1-15 words. Objective type questions may include questions with one word or one sentence answer/fill in the blanks/multiple choice type questions/ true and false.

Section-B

- Question No. 2 to 8 will carry 2 marks each. Answer of each question should be given in 5-10 lines.

Section-C

- Question No. 9 to 17 will carry 4 marks each. Out of 9 questions 4 questions will be numerical and 4 questions will be theoretical. One question can be either theoretical. Do any 7 question out of 9 questions. Answer of theory question should be given in 15-20 lines.

Section-D

- Question No. 18 to 20 will carry 6 marks each with internal choice. Answer of each question should be given in 3-5 pages. Internal choice question should not be set from the same unit.
- There is no word, line or page limit for numerical questions.
- The use of non-programmable simple calculator is allowed.

DETAIL OF QUESTIONS SET FROM EACH UNIT

Syllabus	Units	Section-A 1 Mark Questions	Section-B 2 Marks Questions	Section-C 4 Marks Question	Section-D 6 Marks Questions
PART - I Business Statistics	1	1	1(T)	1(P)	i) 1 numerical question from units 1-4 with numerical question as internal choice not from same unit. ii) 1 theoretical question from units 5-9 with theoretical question as internal choice not from same unit. iii) 1 numerical question from part-I with internal choice of theoretical question from part II
	2		1(P)	1(P)	
	3	1	1(T)	1(P)	
	4		1(P)	1(P)	
	5	1	1(T)	1(P or T)	
PART - II Introductory Macro Economics	6		1(P)	1(T)	
	7	1	1(T)	1(T)	
	8	1		1(T)	
	9			1(T)	
Total questions		5	7	7 out of 9	3

**SYLLABUS
PART-I
BUSINESS STATISTICS**

UNIT 1. MEASURES OF CENTRAL TENDENCY

- (i) Arithmetic Mean (Simple and weighted)
- (ii) Median and Mode

UNIT 2. MEASURES OF DISPERSION AND SKEWNESS

A. Measures of Dispersion

- i. Range, Quartile, Decile, Percentile and Quartile Deviation.
- ii. Mean Deviation, Standard Deviation and Coefficient of Variation.

B. Measures of Skewness

- (i) Meaning of Measures of Skewness.
- (ii) Difference between Dispersion & Skewness.
- (iii) Measures of Skewness.
 - a) Absolute Measures
 - b) Relative Measures & Coefficient of Skewness
 - (i) Bowley's Coefficient of Skewness
 - (ii) Kelly's Coefficient of Skewness
 - (iii) Karl Pearson's Coefficient of Skewness

UNIT 3. INDEX NUMBER

- (i) Meaning, Features, Uses and Problems of Construction of Index Number.
- (ii) Methods of Construction of Index Number, Cost of Living Index Numbers, Choice of base for Computing Index Numbers, Base Shifting.

UNIT 4. CORRELATION & REGRESSION ANALYSIS

A CORRELATION

- (i) Meaning, Significance, Cause and Effect Relationship.
Types of Correlation.
- (ii) Methods of Correlation:
 - a) Scattered Diagram,
 - b) Graphic Method
 - c) Karl Pearson's Coefficient of Correlation,
 - d) Spearman's Rank Correlation Coefficient
 - e) Concurrent Deviation Method.
- (iii) Probable error, Standard error and Coefficient of Determination.

B REGRESSION ANALYSIS

- (i) Meaning, Uses of Regression Analysis, Relationship between Correlation and Regression analysis
- (ii) Regression Lines

- (iii) Preparation of Regression quotient
- (iv) Standard errors of estimation and Limitation of Regression analysis.

PART-II

INTRODUCTORY MACROECONOMICS

UNIT 5. NATIONAL INCOME AND RELATED AGGREGATES.

- (i) Basic Concepts: Consumption Goods, Capital Goods, Final Goods, Intermediate Goods; Stocks and flows; Gross Investment and Depreciation.
- (ii) Circular Flow of Income, Measurement of National Income- Value Added Method, Income Method and Expenditure Method.
- (iii) Aggregates related to National Income GDP (Gross Domestic Product), GNP (Gross National Product), NDP (Net Domestic Product) , NNP (Net National Product) , (At Market Price and Factor Cost) National Disposable Income (Gross and Net) Private Income, Personal Income and Personal Disposable Income, Real and Nominal GDP.
- (iv) GDP and Welfare

UNIT 6 DETERMINATION OF INCOME AND EMPLOYMENT.

- (i) Aggregate Demand, Aggregate Supply and their Components.
- (ii) Propensity to Consume and Propensity to Save (Average and Marginal)
- (iii) Meaning of Involuntary Unemployment and Full Employment.
- (iv) Determination of Income and Employment-Two Sector Model.
- (v) Concept of Investment Multiplier and its working.
- (vi) Problems of Excess and Deficient Demand.
- (vii) Measures to correct Excess & Deficient Demand, Availability of Credit, Change in Govt. spending.

UNIT 7 MONEY AND BANKING

- (i) Money- Meaning, Evolution and Functions.
- (ii) Supply of Money - Currency held by the Public and Net Demand Deposits held by Commercial Banks.
- (iii) Central Bank- Meaning and Functions (example of Reserve Bank of India) : Bank of Issue, Government Bank, Bankers Banks, Controller of Credit CRR, SLR, Reverse Repo, Open Marker Operation, Margin Requirement.
- (iv) Commercial Banks- Meaning and Functions.

Unit 8 GOVERNMENT BUDGET AND THE ECONOMY

- (i) Government Budget- Meaning, Components and Objectives.
- (ii) Classification of Receipts- Revenue Receipts and Capital Receipts.
- (iii) Classification of Expenditure- Revenue Expenditure and Capital Expenditure.
- (iv) Balanced Budget-Surplus Budget and Deficit Budget; Meaning and Implications.
- (v) Revenue Deficit, Fiscal Deficit and Primary Deficit; Meaning and Implications; Measures to correct different Deficits.

Unit-9 BALANCE OF PAYMENTS

- (i) Balance of Payment Accounts-Meaning and Components.
- (ii) Balance of Payments Deficit -- Meaning.
- (iii) Foreign Exchange Rate- Meaning (Flexible and Fixed), Merits and Demerits, Determination through Demand and Supply.
- (iv) Determination of Exchange Rate in a Free Market.

CLASS-XII
56. FUNDAMENTAL OF E-BUSINESS
(COMMERCE GROUP)

Time: 3 Hrs

Theory: 50 Marks
CCE: 10 Marks
Practical: 15 Marks
Total: 75 Marks

STRUCTURE OF QUESTION PAPER

1. The Question Paper will cover whole of the Syllabus.
2. 16 Questions will be set in the Question paper. Do any five questions from Section-C.
3. All units should be given adequate representation in the question paper.
4. The Question paper will have 4 sections i.e. A, B,C & D.

SECTION-A

5. Question No. 1 consists of 6 subparts carrying 1 mark each. Answer of each part should be given in 1-15 words. Objective type questions may include questions with one word or one sentence answer/fill in the blanks/true or false/multiple choice type questions. Three Questions will be set from Part-1 and another three questions will be set from Part-2 of the syllabus.

SECTION-B

6. Question No. 2 to 7 will carry 2 marks each. Two questions (**Q.No. 2 and Q.No. 3**) will be set from Part-1 and remaining four questions (**Q.No. 4 to Q.No.7**) will be set from Part-2 of the syllabus. Answer of these questions should be given in 5 to 10 lines.

SECTION-C

7. Question No. 8 to 14 will carry 4 marks each. Attempt total five questions from this section. Attempt any three questions from (**Q.No. 8 to Q.No. 11**) which will be set from Part -I and attempt any two questions from (**Q.No. 12 to Q.No. 14**) which will be set from Part-II. Answer of these questions should be given in 15 to 20 lines.

SECTION-D

8. Question No. 15 and 16 will carry 6 marks each with internal choice. Q.No.15 will be set from Units I to II with internal choice and Q.No. 16 will be set from Units III and IV with internal choice. Each question will carry six marks each. Answer of these questions should be given in 3-4 pages of the answer book. Internal choice question will not be set from the same unit.

Unit wise division of the Marks

Unit No.	Name of the Unit	1 Marks Questions	2 Marks questions	4 Marks Questions	6 Marks Questions
I	Fundamental of Information Technology	3	2	2	(i) 1 question from units 1,2 and 3 with internal choice not from same unit
II	Introduction to Electronic Commerce	1	1	1	
III	E-Payments		1	1	
IV	E-Security	1	1	1	(ii) 1 question from units 4,5,6, and 7 with internal choice not from same unit.
V	E-Banking			1	
VI	E-Trading	1	1	1	
VII	E-Marketing			1	
Total Questions		6	6	7	2

Note:

- 1. Do any five questions out of seven questions of 4 marks from Section-C.**

SYLLABUS (THEORY)

Rationale of the Course:

Information technology has great influence on all aspects of our life. All our work places and the living environments are being computerized. In order to prepare students to work in these environments, it is essential that they are exposed to various applications of information technology. One of the important applications of IT is e-business. The term applies to the use of computer network to search and retrieve information in support of human and corporate decision making. It is a modern business methodology that addresses the needs of business organizations, merchants and consumers to out costs while improving the quality of goods and services and increasing the speed of service- delivery. This exposure will enable the students to enter the world with confidence, live in these environments in a harmonious way and contribute to the productivity.

PART -I

UNIT 1: FUNDAMENTALS OF INFORMATION TECHNOLOGY

1. Concepts and Scope of IT
2. Elements of Computer System: Computer Hardware and Software. Computer Organization.
3. CPU: Memory Input Devices, Output Devices, Storage Devices, and Communication Devices, Multimedia Devices
4. Introduction to operating system

Introduction to Internet

Concept of Internet, Use of Internet, Requirements of Internet, Internet Domain, Internet Server, establishing connectivity on the Internet, Types of Internet Providers, Constitute of Internet Protocol, Browsing the Internet Tools and Service of Internet, Procedure of opening e-mail account on internet.

PART-II CONCEPTUAL FRAMEWORK OF E-BUISNESS

UNIT 2: INTRODUCTION TO ELECTRONIC COMMERCE

1. Meaning, Features, Functions and Benefit of E-Commerce, E-Commerce Practices Traditional Practice, Scope and Basic Models of E-Commerce, Limitations of E-Commerce, Precautions for secure E-Commerce, Proxy Services.
2. Types of E-Commerce, Meaning of B2C, B2B, C2C & P2P.
3. E-Commerce in India: Status of E-Commerce in India, Problems and Opportunity in E-Commerce in India, Future of E-Commerce, Legal issues involved in E-Commerce.

UNIT 3: E-PAYMENTS

Transaction through Internet, Requirements of E-Payment System, Post Paid Payment System, Credit Card Solutions, Cyber Cash Internal Cheques, Instant Paid Payment System, Debit Card, Prepaid Payment System, Electronic Cash, Digi Cash, Net Cash, Cyber Cash, Smart Cards.

UNIT 4: E-SECURITY

Areas of Internet Security, Security Threats, Security Breach Avoidance, Defection and Recovery, Confidentiality and Integrity, Electronic Signature, Access Control, Authentication Precaution for Secure E-Commerce.

UNIT 5: E-BANKING

Meaning, Importance and Types of E-Banking Services. Traditional vs E-Banking, Process of E-Banking, Advantages and Disadvantages of E-Banking, Status of E-Banking in India.

UNIT 6: E- TRADING

Meaning and Importance of E- Trading, Traditional Trading vs E-Trading, Operational Aspects of E-Trading, Advantages of E-Trading, Status of E-Trading in India.

UNIT 7: E-MARKETING

Concept of E- Marketing, 4Ps of E-Marketing, Traditional Marketing vs E-Marketing, Advantages of E-Marketing, Status of E-Marketing in India.

STRUCTURE OF PRACTICAL QUESTION PAPER

(PRACTICAL)

Time: 1½ Hours

M. Marks: 15

1. Total five questions (two from Part-1 and three from Part-2) of 3 marks each will be set out of list prescribed for practical. The students are required to perform three practicals selecting at least one from each part.

9 marks

2. Viva Voce

3 marks

3. Project Work

3 marks

**SYLLABUS (PRACTICAL)
LIST OF PRACTICALS (PART-I)**

Internet and its applications:

Log into internet.

Navigation for seeking information.

Downloading information from internet.

PART-II

Sending and receiving e-mail.

- (a) Create e-mail account
- (b) Creating a message
- (c) Creating an address book
- (d) Attaching a file with e-mail
- (e) Receiving a message
- (f) Deleting a message

Purchasing through the net.

On-line banking - Operating an ATM.

CLASS-XII
57. ਖੇਤੀਬਾੜੀ

ਸਮਾਂ : 3 ਘੰਟੇ

ਲਿਖਤੀ : 70 ਅੰਕ
ਪ੍ਰਯੋਗੀ : 20 ਅੰਕ
ਨਿਰੰਤਰ ਸਰਬਪੱਖੀ ਮੁਲਾਂਕਣ: 10 ਅੰਕ
ਕੁੱਲ ਅੰਕ: 100 ਅੰਕ

ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੀ ਰੂਪ-ਰੇਖਾ (ਲਿਖਤੀ)

ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਨੂੰ ਚਾਰ ਭਾਗਾਂ ਵਿੱਚ ਵੰਡਿਆ ਗਿਆ ਹੈ । ਇਸ ਵਿੱਚ ਕੁੱਲ 28 ਪ੍ਰਸ਼ਨ ਹੋਣਗੇ । ਅੰਕਾਂ ਦੀ ਵੰਡ ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਹੈ :

- ਭਾਗ ਨੰ. I** ਪ੍ਰਸ਼ਨ ਨੰ. 1 ਤੋਂ 10 ਤੱਕ ਇੱਕ-ਇੱਕ ਅੰਕ ਵਾਲੇ ਹੋਣਗੇ । ਇਹ ਪ੍ਰਸ਼ਨ ਬਹੁਤ ਛੋਟੇ ਉੱਤਰਾਂ ਵਾਲੇ/ ਬਹੁ-ਭਾਂਤੀ ਉੱਤਰਾਂ / ਖਾਲੀ ਥਾਂ ਭਰੋ / ਸਹੀ ਜਾਂ ਗ਼ਲਤ ਕਥਨ ਚੁਣੋ ਵਾਲੇ ਹੋ ਸਕਦੇ ਹਨ । ਇਹ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨੇ ਲਾਜ਼ਮੀ ਹੋਣਗੇ।
- ਭਾਗ ਨੰ. II** ਪ੍ਰਸ਼ਨ ਨੰ. 11 ਤੋਂ 20 ਤੱਕ ਦੋ-ਦੋ ਅੰਕਾਂ ਵਾਲੇ ਹੋਣਗੇ । ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦਾ ਉੱਤਰ 20-30 ਸ਼ਬਦਾਂ ਵਿੱਚ ਹੋ ਸਕਦਾ ਹੈ । ਇਹ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨੇ ਲਾਜ਼ਮੀ ਹੋਣਗੇ।
- ਭਾਗ ਨੰ. III** ਪ੍ਰਸ਼ਨ ਨੰ. 21 ਤੋਂ 24 ਤੱਕ ਚਾਰ-ਚਾਰ ਅੰਕਾਂ ਵਾਲੇ ਹੋਣਗੇ । ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦਾ ਉੱਤਰ 80-100 ਸ਼ਬਦਾਂ ਦਾ ਹੋ ਸਕਦਾ ਹੈ । ਇਹ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨੇ ਲਾਜ਼ਮੀ ਹੋਣਗੇ।
- ਭਾਗ ਨੰ. IV** ਪ੍ਰਸ਼ਨ ਨੰ. 25 ਤੋਂ 28 ਤੱਕ ਛੇ-ਛੇ ਅੰਕਾਂ ਵਾਲੇ ਹੋਣਗੇ । ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦਾ ਉੱਤਰ 120-150 ਸ਼ਬਦਾਂ ਦਾ ਹੋ ਸਕਦਾ ਹੈ । ਇਨ੍ਹਾਂ ਸਾਰੇ ਪ੍ਰਸ਼ਨਾਂ ਵਿੱਚ 100% ਅੰਦਰੂਨੀ ਛੋਟ ਹੋਵੇਗੀ । ਅੰਦਰੂਨੀ ਛੋਟ ਵਾਲਾ ਪ੍ਰਸ਼ਨ ਉਸੇ ਇਕਾਈ ਵਿੱਚੋਂ ਹੋਵੇਗਾ।

ਇਕਾਈਵਾਰ ਅੰਕਾਂ ਦੀ ਵੰਡ :

ਇਕਾਈ	1 ਅੰਕ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	2 ਅੰਕਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	4 ਅੰਕਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	6 ਅੰਕਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ	ਕੁੱਲ
ਪਹਿਲੀ ਇਕਾਈ	3	3	1	1	19 ਅੰਕ
ਦੂਜੀ ਇਕਾਈ	3	3	1	1	19 ਅੰਕ
ਤੀਜੀ ਇਕਾਈ	2	2	1	1	16 ਅੰਕ
ਚੌਥੀ ਇਕਾਈ	2	2	1	1	16 ਅੰਕ
ਕੁੱਲ ਅੰਕ	10	20	16	24	70 ਅੰਕ
ਕੁੱਲ ਪ੍ਰਸ਼ਨ	10	10	4	4	28 ਪ੍ਰਸ਼ਨ

ਪਾਠਕ੍ਰਮ (ਲਿਖਤੀ)
ਇਕਾਈ - ਪਹਿਲੀ

ਭੂਮੀ ਅਤੇ ਫ਼ਸਲ ਪ੍ਰਬੰਧ ਕਿਰਿਆਵਾਂ

19 ਅੰਕ

ਭੂਮੀ ਵਾਧੇ ਲਈ ਇੱਕ ਮਾਧਿਅਮ ਵਜੋਂ : ਜ਼ਰੂਰੀ ਤੱਤ, ਕਾਰਬਨਿਕ ਖਾਦਾਂ, ਰਸਾਇਣਿਕ ਖਾਦਾਂ ਅਤੇ ਜੈਵਿਕ ਖਾਦਾਂ । ਤੇਜ਼ਾਬੀ ਅਤੇ ਖਾਰੀਆਂ ਭੂਮੀਆਂ ਦਾ ਸੁਧਾਰ । ਭੂਮੀ ਦਾ ਖੁਰਨਾ, ਕਾਰਨ ਅਤੇ ਰੋਕਥਾਮ ਦੇ ਉਪਾਅ ਕਰਨਾ। ਫ਼ਸਲ ਪ੍ਰਬੰਧ ਕਿਰਿਆਵਾਂ : ਕਣਕ, ਧਾਨ, ਮੱਕੀ, ਨਰਮਾ, ਗੰਨਾ, ਸੂਰਜਮੁਖੀ, ਸਰੋਂ, ਛੋਲੇ, ਮੂੰਗੀ, ਜਵਾਰ, ਬਰਸੀਮ, ਮਟਰ, ਟਮਾਟਰ ਅਤੇ ਬੈਂਗਣ ਦੀਆਂ ਕਿਸਮਾਂ ਦੀ ਚੋਣ, ਭੂਮੀ ਦੀ ਤਿਆਰੀ, ਬੀਜ ਦੀ ਮਾਤਰਾ, ਬਿਜਾਈ ਦਾ ਢੰਗ, ਦੇਸੀ ਅਤੇ ਰਸਾਇਣਿਕ ਖਾਦਾਂ ਦੀ ਵਰਤੋਂ, ਸਿੰਚਾਈ, ਨਦੀਨਾਂ ਦੀ ਰੋਕਥਾਮ, ਕਟਾਈ, ਗਹਾਈ ਅਤੇ ਮੰਡੀਕਰਨ ਕਰਨਾ । ਬੇਰ, ਅਮਰੂਦ ਅਤੇ ਅੰਗੂਰ ਵਰਗੇ ਮਹੱਤਵਪੂਰਨ ਫਲਾਂ ਦੀ ਕਾਸ਼ਤ । ਉਕਤ ਫ਼ਸਲਾਂ ਨੂੰ ਲੱਗਣ ਵਾਲੇ ਪ੍ਰਮੁੱਖ ਕੀੜਿਆਂ ਅਤੇ ਬਿਮਾਰੀਆਂ ਦੇ ਲੱਛਣ ਅਤੇ ਇਹਨਾਂ ਦੀ ਰੋਕਥਾਮ ਦੇ ਉਪਾਅ ।

ਇਕਾਈ - ਦੂਜੀ

ਪਸ਼ੂ ਧਨ ਪਾਲਣ ਅਤੇ ਮੁਰਗੀ ਪਾਲਣ

19 ਅੰਕ

ਪਸ਼ੂ ਧਨ ਪਾਲਣ : ਪਸ਼ੂ ਪਾਲਣ ਅਤੇ ਮੁਰਗੀ ਪਾਲਣ ਦੀ ਖੇਤੀਬਾੜੀ ਵਿੱਚ ਭੂਮਿਕਾ । ਦੁਧਾਰੂ ਪਸ਼ੂਆਂ ਅਤੇ ਮੁਰਗੀਆਂ ਦੀਆਂ ਨਸਲਾਂ । ਵਪਾਰਕ ਪੱਧਰ ਤੇ ਦੁਧਾਰੂ ਪਸ਼ੂ ਅਤੇ ਮੁਰਗੀਆਂ ਪਾਲਣਾ । ਨਵੇਂ ਜੰਮੇ ਕੱਟੜੂ, ਗਰਭਵਤੀ ਪਸ਼ੂ ਅਤੇ ਦੁਧਾਰੂ ਪਸ਼ੂਆਂ ਦੀ ਸੰਭਾਲ । ਬਣਾਉਟੀ ਗਰਭਦਾਨ, ਗਰਭ ਦੀ ਪਛਾਣ ਅਤੇ ਦੁਧਾਰੂ ਪਸ਼ੂਆਂ ਦੇ ਦਿਲ ਦੇ ਰੋਗਾਂ ਦਾ ਪਤਾ ਲਗਾਉਣਾ । ਦੋਗਲਾ ਨਸਲੀ ਕਰਨ । ਦੁਧਾਰੂ ਪਸ਼ੂਆਂ ਅਤੇ ਮੁਰਗੀਆਂ ਦੀ ਬਿਮਾਰੀਆਂ :

ਮੂੰਹ-ਖੁਰ, ਗਲ ਘੋਟੂ, ਲੇਵੇ ਦੀ ਸੋਜ, ਪੱਟ ਦੀ ਸੋਜ, ਰਾਣੀ ਖੇਤ, ਬਰਡ ਫਲੂ । ਦੁਧਾਰੂ ਪਸ਼ੂਆਂ ਦੀ ਖੁਰਾਕ ।
ਮਨੁੱਖੀ ਖੁਰਾਕ ਵਿੱਚ ਮਾਸ ਅਤੇ ਆਂਡਿਆਂ ਦੀ ਮਹੱਤਤਾ ।

ਇਕਾਈ - ਤੀਜੀ

ਖੇਤੀਬਾੜੀ ਜੀਵ ਵਿਗਿਆਨ - ਬਨਸਪਤੀ ਵਿਗਿਆਨ

16 ਅੰਕ

1. ਅਣੂਵੰਸ਼ਕਿਤਾ - ਮੈਂਡਲ ਦਾ ਅਣੂਵੰਸ਼ਿਕੀ ਨਿਯਮ ।
2. ਇੱਕ ਬੀਜ ਪੱਤਰੀ ਅਤੇ ਦੋ ਬੀਜ ਪੱਤਰੀ ਤਣੇ, ਜੜ੍ਹ ਅਤੇ ਪੱਤੇ ਦੀ ਅੰਦਰੂਨੀ ਸੰਰਚਨਾ ਦਾ ਸਰੀਰਕ ਅਧਿਐਨ ।
3. ਸਧਾਰਨ, ਸੰਯੁਕਤ ਅਤੇ ਵਿਸ਼ੇਸ਼ ਪ੍ਰਕਾਰ ਦੇ ਫੁੱਲ ਕ੍ਰਮ ।
4. ਪਰਾਗਣ ਦੀਆਂ ਕਿਸਮਾਂ ਅਤੇ ਪਰਾਗਣ ਲਈ ਜ਼ਿੰਮੇਵਾਰ ਸਾਧਨ ।
5. ਬੀਜ ਅਤੇ ਫਲ ਦਾ ਨਿਸ਼ੇਚਨ ਅਤੇ ਵਿਕਾਸ ।
6. ਫਲਾਂ ਦੇ ਪ੍ਰਕਾਰ ਅਤੇ ਬੀਜ ਦਾ ਪਸਾਰ (ਖਿੱਲਰਨਾ) ।
7. ਹੇਠ ਲਿਖੇ ਬਰੈਕਟ ਵਿੱਚ ਦਿੱਤੇ ਫੁੱਲਦਾਰ ਪੌਦਿਆਂ ਦੇ ਸਧਾਰਨ ਲੱਛਣ ਅਤੇ ਆਰਥਿਕ ਮਹੱਤਤਾ ਦਾ ਅਧਿਐਨ :
 - (ੳ) ਕਰੂਸੀਫੇਰੀ (ਸਰੋਂ, ਸ਼ਲਗਮ)
 - (ਅ) ਮਾਲਵੇਸੀ (ਨਰਮਾ, ਭਿੰਡੀ)
 - (ੲ) ਰੂਟੇਸੀ (ਨਿੰਬੂ ਜਾਤੀ, ਕੜੀ ਪੱਤਾ)
 - (ਸ) ਪੈਪਲਿਓਨੇਸੀ (ਮਿੱਠਾ ਮਟਰ, ਮਟਰ)
 - (ਹ) ਰੋਜ਼ੇਸੀ (ਗੁਲਾਬ, ਆਲੂ ਬੁਖਾਰਾ)
 - (ਕ) ਸੋਲੇਨੇਸੀ (ਪਿਟੂਨੀਆ, ਆਲੂ)
 - (ਖ) ਕੁਕਰਬਿਟੇਸੀ (ਤੋਰੀ, ਕੱਦੂ)
 - (ਗ) ਗ੍ਰੇਮਿਨੀ (ਜਵੀਂ, ਕਣਕ)
8. ਪ੍ਰਕਾਸ਼ ਸੰਸ਼ਲੇਸ਼ਣ, ਸਾਹ ਕਿਰਿਆ ਅਤੇ ਵਾਸ਼ਪ ਉਤਸਰਜਨ ਬਾਰੇ ਸੰਖੇਪ ਜਾਣਕਾਰੀ ।

ਇਕਾਈ - ਚੌਥੀ

ਖੇਤੀਬਾੜੀ ਜੀਵ ਵਿਗਿਆਨ - ਜੰਤੂ ਵਿਗਿਆਨ

16

ਅੰਕ

1. ਜਾਣ-ਪਛਾਣ : ਜੰਤੂ ਵਿਗਿਆਨ, ਸਜੀਵ ਵਸਤੂਆਂ ਦੇ ਲੱਛਣ, ਡੀ. ਐੱਨ. ਏ., ਆਰ. ਐੱਨ. ਏ., ਐਨਜਾਈਮਾਂ ਅਤੇ ਹਾਰਮੋਨਾਂ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ ।
2. ਜੰਤੂਆਂ ਦਾ ਵਿਗਿਆਨਕ ਨਾਮਕਰਨ ਅਤੇ ਵਰਗੀਕਰਨ ਦੇ ਸਿਧਾਂਤ । ਜੀਵਨ ਦੀ ਮੂਲ ਉਤਪਤੀ । ਵਿਕਾਸ ਦੇ ਸਿਧਾਂਤ ਅਤੇ ਪ੍ਰਮਾਣ ।
3. ਥਣਧਾਰੀ ਪਸ਼ੂਆਂ ਦੇ ਆਮ ਲੱਛਣ । ਖ਼ਰਗੋਸ਼ ਦੀ ਮੁੱਢਲੀ ਕਿਰਿਆਤਮਿਕ ਸਰੀਰਕ ਬਣਤਰ - ਵਿਸ਼ੇਸ਼ ਰੂਪ ਵਿੱਚ ਪਾਚਨ, ਸਾਹ, ਲਹੂ-ਗੇੜ ਅਤੇ ਮੂਤਰ ਪ੍ਰਣਾਲੀ ਬਾਰੇ ਜਾਣਕਾਰੀ ।
4. ਕੀੜੇ - ਕੀਟਾਂ ਦਾ ਵਾਧਾ ਅਤੇ ਵਿਕਾਸ । ਘਾਹ ਦੇ ਟਿੱਡੇ ਦੀ ਸਰੀਰਕ ਬਣਤਰ ਦਾ ਅਧਿਐਨ ਕਰਨਾ ।
5. ਖੇਤੀ ਲਈ ਆਰਥਿਕ ਮਹੱਤਤਾ ਰੱਖਣ ਵਾਲੇ ਪਸ਼ੂਆਂ ਬਾਰੇ ਅਧਿਐਨ ਕਰਨਾ ।

ਪ੍ਰਯੋਗੀ ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੀ ਰੂਪ-ਰੇਖਾ

ਸਮਾਂ : 3 ਘੰਟੇ

ਅੰਕ : 20

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਪ੍ਰੀਖਿਅਕ ਵੱਲੋਂ ਮੌਕੇ ਤੇ ਹੀ ਸੈੱਟ ਕੀਤਾ ਜਾਵੇਗਾ ।
2. ਇੱਕ ਗਰੁੱਪ ਵਿੱਚ 20 ਤੋਂ ਵੱਧ ਪ੍ਰੀਖਿਆਰਥੀ ਨਹੀਂ ਹੋਣਗੇ ।
3. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਦੋ ਭਾਗ ਹੋਣਗੇ । ਹਰੇਕ ਭਾਗ ਵਿੱਚੋਂ ਇੱਕ-ਇੱਕ ਪ੍ਰਯੋਗ ਦਿੱਤਾ ਜਾਵੇਗਾ :
 - (ੳ) ਭੂਮੀ ਅਤੇ ਫ਼ਸਲ ਪ੍ਰਬੰਧ ਕਿਰਿਆਵਾਂ, ਪਸ਼ੂ ਪਾਲਣ ਅਤੇ ਮੁਰਗੀ ਪਾਲਣ
 - (ਅ) ਖੇਤੀਬਾੜੀ ਜੀਵ ਵਿਗਿਆਨ
 ਅੰਕਾਂ ਦੀ ਵੰਡ ਹੇਠ ਲਿਖੇ ਅਨੁਸਾਰ ਹੈ :

- 4-4 ਅੰਕਾਂ ਦੇ ਦੋ ਪ੍ਰਯੋਗ / ਕਿਰਿਆਵਾਂ 8 ਅੰਕ
- ਪ੍ਰਯੋਗੀ ਨੋਟ ਬੁੱਕ, ਚਾਰਟ ਅਤੇ ਹੋਰ ਪੇਸ਼ਕਾਰੀ 4 ਅੰਕ
- ਜ਼ਬਾਨੀ ਪ੍ਰਸ਼ਨ 4 ਅੰਕ
- ਬੀਜਾਂ, ਖਾਦਾਂ, ਸੰਦਾਂ, ਮਸ਼ੀਨਾਂ, ਨਦੀਨਾਂ, ਕੀੜਿਆਂ, ਬੀਮਾਰੀਆਂ ਆਦਿ ਦੀ ਪਛਾਣ ਕਰਨਾ । 4 ਅੰਕ

ਪਾਠਕ੍ਰਮ (ਪ੍ਰਯੋਗੀ)

ਸਮਾਂ : 3 ਘੰਟੇ

ਅੰਕ : 20

ਭਾਗ - (ੳ)

ਭੂਮੀ ਅਤੇ ਫ਼ਸਲ ਪ੍ਰਬੰਧ ਕਿਰਿਆਵਾਂ, ਪਸ਼ੂ ਪਾਲਣ ਅਤੇ ਮੁਰਗੀ ਪਾਲਣ

1. ਪ੍ਰਮੁੱਖ ਫ਼ਸਲਾਂ ਦੀ ਬਿਜਾਈ ਲਈ ਕਿਆਰੀ ਤਿਆਰ ਕਰਨਾ ।
2. ਨਦੀਨਾਂ ਦੀ ਰੋਕਥਾਮ ਦੀਆਂ ਵਿਧੀਆਂ ।

3. ਸਿੰਚਾਈ ਦੀਆਂ ਵਿਧੀਆਂ ।
4. ਰਸਾਇਣਿਕ ਖਾਦਾਂ ਦੀਆਂ ਕਿਸਮਾਂ ਅਤੇ ਇਹਨਾਂ ਦੀ ਵਰਤੋਂ ।
5. ਰੂੜੀ ਦੀ ਖਾਦ ਅਤੇ ਇਸ ਦੇ ਤਿਆਰ ਕਰਨ ਦਾ ਢੰਗ ।
6. ਵੱਖ-ਵੱਖ ਫਸਲਾਂ ਦੇ ਪ੍ਰਮੁੱਖ ਕੀੜਿਆਂ ਅਤੇ ਬਿਮਾਰੀਆਂ ਦੀ ਪਛਾਣ ਕਰਨਾ ।
7. ਬਾਗਬਾਨੀ ਅਧੀਨ ਪੌਦਿਆਂ ਦੀ ਸਿਧਾਈ ਅਤੇ ਛੰਗਾਈ ਕਰਨਾ, ਖਾਦ ਦੇਣਾ ਅਤੇ ਸਿੰਚਾਈ ਕਰਨਾ ।
8. ਪਸ਼ੂ ਪਾਲਣਾ ।
9. ਮੁਰਗੀਆਂ ਪਾਲਣਾ ।
10. ਦੁਧਾਰੂ ਪਸ਼ੂਆਂ ਦੀ ਚੋਣ ਕਰਨਾ ।
11. ਫਲਾਂ ਨੂੰ ਸੁਰੱਖਿਅਤ ਸਾਂਭਣਾ ।
12. ਖੇਤੀ ਦੇ ਰਿਕਾਰਡ ਦੀ ਸੰਭਾਲ ਅਤੇ ਇਸ ਦੀ ਵਰਤੋਂ ।

ਭਾਗ - (ਅ)

ਖੇਤੀਬਾੜੀ ਜੀਵ ਵਿਗਿਆਨ

ਬਨਸਪਤੀ ਵਿਗਿਆਨ :

1. ਸਥਾਈ ਸਲਾਈਡਾਂ ਰਾਹੀਂ ਇੱਕ ਬੀਜ ਪੱਤਰੀ ਅਤੇ ਦੋ ਬੀਜ ਪੱਤਰੀ ਤਣੇ, ਜੜ ਅਤੇ ਪੱਤੇ ਦੀ ਬਣਤਰ ਦਾ ਅਧਿਐਨ ਕਰਨਾ ।
2. ਵੱਖ-ਵੱਖ ਫੁੱਲ ਕ੍ਰਮ ਦੇ ਨਮੂਨਿਆਂ ਦੀ ਪਛਾਣ ਅਤੇ ਅਧਿਐਨ ਕਰਨਾ ।
3. ਵੱਖ-ਵੱਖ ਕਿਸਮਾਂ ਦੇ ਫਲਾਂ ਦੇ ਨਮੂਨਿਆਂ ਦੀ ਪਛਾਣ ਅਤੇ ਅਧਿਐਨ ਕਰਨਾ ।
4. ਲਿਖਤੀ ਪਾਠਕ੍ਰਮ ਅਨੁਸਾਰ ਵੱਖ-ਵੱਖ ਕੁੱਲ ਦੇ ਪੌਦਿਆਂ/ਪੌਦਿਆਂ ਦੇ ਭਾਗਾਂ ਦੀ ਪਛਾਣ ਅਤੇ ਅਧਿਐਨ ਕਰਨਾ ।
5. ਪ੍ਰਕਾਸ਼ ਸੰਸ਼ਲੇਸ਼ਨ, ਸਾਹ ਕਿਰਿਆ ਅਤੇ ਵਾਸ਼ਪ ਉਤਸਰਜਨ ਸਬੰਧੀ ਵੱਖ-ਵੱਖ ਪ੍ਰਯੋਗ ਕਰਨਾ ।

ਤੰਤੂ ਵਿਗਿਆਨ :

1. ਖੇਤੀਬਾੜੀ ਵਿੱਚ ਪਸ਼ੂਆਂ ਦੀ ਆਰਥਿਕ ਮਹੱਤਤਾ ਬਾਰੇ ਜਾਣਕਾਰੀ ।
2. ਸੰਯੁਕਤ ਟਿਸ਼ੂਆਂ ਅਤੇ ਅੰਗਾਂ ਦਾ ਤੰਤੂ ਵਿਗਿਆਨ ਅਨੁਸਾਰ ਸਲਾਈਡਾਂ ਰਾਹੀਂ ਅਧਿਐਨ ਕਰਨਾ ।
3. ਮਾਡਲ ਰਾਹੀਂ ਥਣ ਧਾਰੀ ਜੀਵ ਦੀ ਅੱਖ ਅਤੇ ਦਿਲ ਸਬੰਧੀ ਅਧਿਐਨ ਕਰਨਾ ।
4. ਮਾਡਲ/ਚਾਰਟ ਰਾਹੀਂ ਖ਼ਰਗੋਸ਼ ਦੀਆਂ ਵੱਖ-ਵੱਖ ਪ੍ਰਣਾਲੀਆਂ ਬਾਰੇ ਅਧਿਐਨ ਕਰਨਾ ।
5. ਫਸਲਾਂ ਦੇ ਪ੍ਰਮੁੱਖ ਕੀੜਿਆਂ ਅਤੇ ਰੋਗਾਂ ਦੀ ਪਛਾਣ ਕਰਨਾ ।