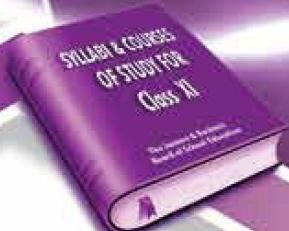


SYLLABI & COURSES OF STUDY FOR Class XI

**EFFECTIVE FROM
ACADEMIC SESSION 2024-25
FOR U.T OF J&K AND U.T OF LADAKH**



**JAMMU & KASHMIR
BOARD OF SCHOOL EDUCATION**



CONCESSION FOR CHILDREN WITH SPECIAL NEEDS

The Jammu and Kashmir Board of School Education vide notification No. F(Acad. C) Disabled/C/06, dated:- 03-07-2006 and F (Acad-C) CWSN/Exam/B/22, dated:- 25-04-2022 provides following concessions to Children With Special Needs. For further details, refer to our notification :-

1. Students with 40% disability, as defined in **The Rights of Person with Disabilities (RPWD) Act, 2016** of permanent nature shall have to secure only 31% marks instead of 36% except General English wherein the minimum qualifying criteria is 28% instead of 33%. This is applicable to both theory and practicals.
2. No examination fee shall be charged to children with special needs as defined in **The Rights of Person with Disabilities (RPWD) Act, 2016** in case where the disability is 40% or more, of permanent nature.

Note:- Children With Special Needs shall have to produce disability certificate from District Medical Board (Competent Authority appointed by the Directorate of Health Services Kashmir/Jammu/Ladakh or documentary proof such as Unique Disability Identity (UDID) Card issued by Department of Empowerment of Persons with Disabilities, Ministry of Social Justice and Empowerment, Government of India.

The Disability Certificate is to be attached with the Admission cum Permission form.

SCHEME OF STUDIES

The students of U.T of Jammu & Kashmir and U.T of Ladakh who shall seek admission in Higher Secondary Part- I (Class 11th) from the Academic session **2024-25** shall follow the given below scheme. The Scheme of studies and the combination of subjects at +2 stage has been prepared as per new scheme of studies. The revised combination of subjects is now as per the standard at National level and has vertical linkage with under graduate courses offered by various Universities across U.T of Jammu & Kashmir and U.T of Ladakh.

Subject Combination at Higher Secondary Part - I(Class 11th)

FACULTY OF SCIENCE

Group -I	Group-II	Group-III	Group-IV	Group-V	Group-VI	Group-VII	Group VIII Vocational Courses
General English (Compulsory)	Physics (Compulsory)	Chemistry (Compulsory)	Mathematics Applied Mathematics	Biology Statistics Geography	Geology Biotechnology Microbiology Biochemistry	Computer-Science. Information-Practices. Environmental-Science Functional-English. Physical- Education. Islamic Studies Vedic Studies Buddhist- Studies Electronics. Food Technology	IT & ITes Retail Healthcare Tourism & Hospitality Security Agriculture Telecommunication Media and Entertainment Beauty and Wellness. Physical Education and sports Automotive Apparel, Made ups & Home Furnishing Electronics and Hardware Plumbing ,Power

Note: A student shall have to opt any two subjects from IV to VIII group, but not more than one from each group.

FACULTY OF HOME SCIENCE

Group -I	Group-II	Group-III	Group-IV	Group-V	Group VI Vocational Courses
General English (Compulsory)	Human Development (Compulsory)	Clothing for the Family (Compulsory)	Extension Education (Compulsory)	Computer-Science. Information-Practices. Environmental-Science Functional-English. Islamic Studies Vedic Studies Buddhist- Studies Physical Education Travel Tourism & Hotel Management Food Technology	IT & ITes Retail Healthcare Tourism & Hospitality Security Agriculture Telecommunication Media and Entertainment Beauty and Wellness. Physical Education and sports Automotive Apparel, Made ups & Home Furnishing Electronics and Hardware Plumbing ,Power

Note: A student shall have to opt any one subject from Group-V or VI.

FACULTY OF COMMERCE

Group -I	Group-II	Group-III	Group-IV	Group-V	Group-VI	Group VII Vocational Courses
General English (Compulsory)	Business Studies (Compulsory)	Accountancy (Compulsory)	Entrepreneurship OR Economics	Business Mathematics Type Writing & Shorthand Public Administration	Computer-Science. Information-Practices. Environmental-Science Functional-English. Physical- Education. Islamic Studies Vedic Studies Buddhist- Studies Electronics. Travel Tourism & Hotel Management	IT & ITes Retail Healthcare Tourism & Hospitality Security Agriculture Telecommunication Media and Entertainment Beauty and Wellness. Physical Education and sports Automotive Apparel, Made ups & Home Furnishing Electronics and Hardware Plumbing ,Power

Note: A student shall have to opt any two subjects from IV - VII groups but not more than one from each group.

FACULTY OF HUMANITIES

Group -I	Group II	Group III	Group IV	Group V	Group VI	Group VII	Group VIII	Group IX Vocational Courses
General English (Compulsory)	Urdu Hindi Bhoti Dogri Kashmiri Punjabi	Arabic Sanskrit Persian Economics	Mathematics Applied Mathematics Sociology	Psychology Music Geography Philosophy Education	1. History 2. Home Science (Elective) 3. Public Administration	Statistics Political Science	Computer Science Information Practices, Environmental Science Functional English, Physical Education, Vedic Studies Islamic Studies Buddhist Studies Travel, Tourism & Hotel Management Food Technology English Literature	IT & ITes Retail Healthcare Tourism & Hospitality Security Agriculture Telecommunication Media and Entertainment Beauty and Wellness, Physical Education and sports Automotive Apparel, Made ups & Home Furnishing Electronics and Hardware Plumbing ,Power

Note: A student shall have to opt any four subjects from II to IX groups but not more than one from each group.

SCHEME OF ASSESSMENT / EXAMINATION

The Higher Secondary Examination Part – I (Class 11th) conducted by the Board at the end of academic session on the basis of syllabi prescribed for Class 11th is open to eligible candidates and shall be conducted according to the following scheme of examination.

GROUP – I: SCIENCE STREAM

Note: (I) Performance in each subject shall be assessed through single paper of 70 marks for Science subjects and 80 marks for Mathematics of 3 hours duration.

- a) In case of a subject involving practical there shall be an external practical examination of 20 marks of three hours duration.
- b) Marks reserved for internal assessment (which is 10 in case of each subject) shall be awarded by the schools themselves, as part of internal assessment by the school teacher through different assessment techniques.

MARKS

Subject	Theory	Practical		Total
		Internal Assessment	External Examination	
Physics	70	10	20	100
Chemistry	70	10	20	100
Biology	70	10	20	100
Biotechnology	70	10	20	100
Microbiology	70	10	20	100
Biochemistry	70	10	20	100
Geography	70	10	20	100
Geology	70	10	20	100
Mathematics	80	20	x	100
Applied Mathematics	80	20	x	100
Statistics	70	10	20	100
Environmental Science	70	10	20 (Ext./P.W)	100
Information Practices	70	10	20	100
Computer Science	70	10	20	100
Food Technology	70	10	20	100

Note: In case of Biology, 10 marks are reserved for internal assessment, 05 marks are for Botany and 05 for Zoology. External practical examination of Botany practicals shall be of 10 marks and two hours duration. External practical examination in case of Zoology shall be of 10 marks and two hours duration.

Note:-

GROUP - II : HOME SCIENCE STREAM

- 1) Performance in each subject shall be assessed through one single paper (theory paper of 70 marks) and of 3 hours duration.
- 2) External practical examination in each subject shall be of 20 marks and 3 hours duration.
- 3) Marks reserved for internal assessment (which is 10 in case of each subject) shall be awarded by the schools themselves, as part of internal assessment by the school teacher through different assessment techniques.

Subject	Theory	MARKS		Total	
		Practical	Internal Assessment		
		External Examination			
Human Development	70	10	20	100	
Clothing for the family	70	10	20	100	
Extension Education	70	10	20	100	
Food Technology	70	10	20	100	

GROUP - III : COMMERCE STREAM

MARKS

Subject	Theory	Practical		Total
		Internal Assessment	External Examination	
Business Studies	80	20	-	100
Accountancy	80	05	15	100
Entrepreneurship	80	05	15	100
Business Mathematics	80	20	-	100
Type Writing & Short Hand	-	40	60	100
Public Administration	80	20 PW	x	100

GROUP IV: HUMANITIES STREAM

Subject	Theory	MARKS		Total
		Internal Assessment	External Examination	
General English	80	20	✗	100
Hindi	80	20	✗	100
Urdu	80	20	✗	100
Bodhi	80	20	✗	100
Dogri	80	20	✗	100
Kashmiri	80	20	✗	100
Punjabi	80	20	✗	100
Sanskrit	80	20	✗	100
Arabic	80	20	✗	100
Persian	80	20	✗	100
Mathematics	80	20	✗	100
Philosophy	80	20	✗	100
History	80	20	✗	100
Economics	80	20	✗	100
Geography	70	10	20	100
Political Science	80	20	✗	100
Education	100	✗	✗	100
Psychology	70	10	20	100
Sociology	80	05	15	100
Home Science (El)	70	10	20	100
Music	50	25	25	100
Statistics	70	10	20	100
Buddhist Studies	80	20	✗	100
Islamic studies	80	20	✗	100
Vedic Studies	80	20	✗	100
English Literature	80	20	✗	100
Food Technology	70	10	20	100
Functional English	80	20	✗	100
Physical Education	60	15	25	100
Public Administration	80	20	✗	100

Note:

(1) In case of Geography and Home Science (Elective) marks reserved for internal assessment (which is 10 in case of each subject) shall be awarded as part of internal assessment by the school teacher through different assessment techniques.

(2) In case of Music marks reserved for internal assessment in practical work shall be awarded on the basis of performance in two tests of 20 marks each and quality of reportage carrying 10 marks.

NOTE:

In the case of vocational subjects mentioned under the scheme of studies in Science Stream (Group VIII), Home Science Stream (Group VI), Commerce Stream (Group VII), Humanities Stream (Group IX), the choice at present applies to Govt. Schools only where the subjects are being offered.

Subjects Name alongwith codes for Class 11th

S.No	Subject/Title Name	Subject Codes
1	General English	EN
2	Hindi	HI
3	Urdu	UR
4	Bhoti	BO
5	Dogri	DG
6	Kashmiri	KA
7	Punjabi	PU
8	Sanskrit	SA
9	Arabic	AR
10	Persian	PE
11	Buddhist Studies	BU
12	Islamic Studies	IS
13	Vedic Studies	VS
14	Functional English	FE
15	Economics	EO
16	Geography	GG
17	Philosophy	PL
18	Education	ED
19	Psychology	PY
20	Sociology	SO
21	Political Science	PS
22	English Literature	EL
23	Statistics	SS
24	Mathematics	MA
25	History	HY
26	Computer Science	CS
27	Information Practices	IP
28	Environmental Science	ES
29	Physics	PH
30	Chemistry	CH
31	Biology (Zoology/Botany)	BI
32	Electronics	ET
33	Bio-technology	BT
34	Bio-Chemistry	BC
35	Music	MU
36	Family Health Care & Prevention	FH

37	Food Science	FS
38	Management of Resources	MR
39	Business Studies	BS
40	Travel, Tourism and Hotel Management	TT
41	Accountancy	AY
42	Entrepreneurship	EP
43	Public Administration	PA
44	Typewriting and Shorthand	TS
45	Business Mathematics	BM
46	Geology	GO
47	Home Science (Elective)	HS
48	Physical Education	PD
49	Clothing for the Family	CT
50	Applied Mathematics	AM
51	Microbiology	MB
52	Extension Education	EE
53	Human Development	HD
54	Food Technology	FT

Vocational Subjects for Class 11th

55	IT and ITes.	IV
56	Retail	RT
57	Healthcare	HC
58	Tourism & Hospitality	TH
59	Security	SE
60	Agriculture	AG
61	Telecommunication	TE
62	Media and Entertainment	ME
63	Beauty and Wellness	BW
64	Physical Education and Sports	PW
65	Apparels, Makeup and Home Furnishing	AH
66	Plumbing	PB
67	Electronics & Hardware	EH
68	Automotive	AT



The Jammu and Kashmir Board of School Education

Rehari Colony, Jammu / Bemina, Srinagar

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5	Political Science	19-21
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8	Mathematics	27-30
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11	Biology	42-46
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13	Accountancy	58-60
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15	Information Practices	65-67
16	Electronics	68-70
17	Statistics	71-74
18	Philosophy	75-76
19	Education	77-79
20	Home Science (Elective)	80-84
21	Music	85-86
22	Applied Mathematics	87-88
23	Islamic Studies	89
24	Dogri	90-91
25	Vedic Studies	92-93
26	Buddhist Studies	94-95

27	Arabic	96
28	Functional English	97-99
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30	Environmental Science	105-107
31	Microbiology	108-110
32	Biochemistry	111-113
33	Food Technology	114-115
34	Geology	116-120
35	Entrepreneurship	121-130
36	Typewriting & Shorthand	131-133
37	Business Mathematics	134-135
38	Travel Tourism and Hotel Management	136-137
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48	Public Administration	173-175
49	Hindi	176-178
50	Vocational Subjects	Detailed Syllabi of Vocational subjects are available on JKBOSE website.

GENERAL ENGLISH

CLASS-XI

MAX MARKS: 100

TIME: 3 HOURS

80 (THEORY) +20 (INTERNAL ASSESSMENT)

PRESCRIBED BOOKS

1. *Hornbill*: Textbook in English for Class XI(Core Course) published by NCERT, New Delhi
 1. The Portrait of a Lady
 2. A Photograph
 3. We're Not Afraid to Die ... If We Can All Be Together
 4. Discovering Tut: The Saga Continues
 5. The Laburnum Top
 6. The Voice of The Rain
 7. The Ailing Planet: The Green Movement's Role
 8. Childhood
 9. The Adventure
 10. Silk Road
 11. Father to Son
2. *Snapshots*: Supplementary Reader in English for Class XI (Core Course) published by NCERT, New Delhi
 1. The Summer of the Beautiful White Horse
 2. The Address
 3. Mother's Day
 4. Birth
 5. The Tale of Melon City

SCHEME OF ASSESSMENT

Q No	DESCRIPTION	Weightage
	SECTION A: READING COMPREHENSION	20 marks
1	One unseen passage (400-500 words) for note-making (5 marks), summarizing (4 marks) and providing a title (1 mark) to the summary.	10 marks
2	One unseen prose passage (400-500 words) followed by ten objective type questions including MCQ's, fill-ups, true/false, yes/no to assess comprehension, interpretation and inference.	1x10=10 Marks
	SECTION B: WRITING SKILLS AND GRAMMAR	30 marks
3	One out of two questions on notice/poster/advertisements (30-50 words).	4 marks
4	One out of two questions on letter writing (business or official letters for making enquiries, registering complaints, asking for and giving information, placing orders and sending replies; letters to the editor giving suggestions/opinions on an issue; letters to the school or college authorities, regarding admissions, school issues, requirements/suitability of courses, etc.) (120-150 words). Address: 1 mark Salutation: 1 mark Body: 3 Marks Closing: 1 Mark	6 marks
5	One question on writing a personal email to a friend/relative/etc. (50-80words)	4 marks
6	One out of two questions on article/speech/ report/personal narrative/debate writing. (200-250 words)	8 marks
7	One passage (100-150 words) for assessing through error correction the following items: determiners, tenses, punctuation, modals, conjunctions and prepositions (8 items).	8 marks
	SECTION C: Literature	30 marks
8	a) One poetic passage from the prescribed textbooks followed by four objective type questions on context, comprehension, poetic devices, theme, etc. ($4 \times 1 = 4$ marks) b) Two out of three short answer type questions on prescribed poems other than included at a) above based on poetic devices, theme, global comprehension to be answered in 40-50 words. ($2 \times 3 = 6$ marks)	10 marks
9	Three out of five short answer type questions from <i>Hornbill</i> based on prose lessons to assess inference and critical thinking (40-50 words each)	$3 \times 3 = 9$ Marks
10	One out of two long answer type questions from <i>Snapshots</i> based on prose lessons to assess inference, critical thinking and appreciation, global comprehension, theme, style and extrapolation beyond the texts. Questions to elicit creative responses and ability to form opinions. (150-200words)	6 marks
11	One out of two long answer type questions from the play based on inference, theme, characterization, setting, plot, literary devices and critical thinking. (120-150words)	5 marks

INTERNAL ASSESSMENT

Assessment of Listening and Speaking Skills

Assessment of Listening and Speaking Skills will be for 20 marks. Practice and assessment is to be based on the activities included in the prescribed textbooks and by taking recourse to various resources and techniques available in the school.

INTERNAL ASSESSMENT

Assessment of Listening Skills	05 marks.
Assessment of Speaking Skills	05 Marks
Project Work	10 Marks

Suggested Reading

For grammar, teachers and students can refer to any standard grammar textbook for further reading and clarification of concepts. Some of the books include:

- *English Grammar in Use by Raymond Murphy published (Cambridge University Press)*
- *Oxford Practice Grammar by John Eastwood published (Oxford University Press)*
- *A Practical English Grammar by Thomson and Martinet (Oxford University Press)*
- *High School English Grammar by Wren and Martin (S Chand Publishing)*

Question Paper Design

General English XI

Marks: $80+20=100$

Section	Competencies	Total marks
Comprehension	Conceptual understanding, decoding, Analyzing, inferring, interpreting, appreciation, literary, conventions and vocabulary, summarizing and using appropriate format/s	20 Marks
Writing Skills	Reasoning, appropriacy of style and tone, using appropriate format and fluency, inference, analysis, evaluation and creativity	30 Marks
Literature Textbook and Supplementary Reader	Recalling, reasoning, appreciating literary convention, inference, analysis, creativity with fluency	30 Marks
	TOTAL	80 Marks
Assessment of Listening, Speaking Skills & Project Work		20 Marks
	GRAND TOTAL	100 Marks

HISTORY

Maximum Marks: 100

Theory: 80 Marks

Time: 3 hrs

Project work: 20 marks

Section A: Early Societies

10 Marks

1. Early Cities.
Focus: Iraq 3 Millennium B.C
- a) Growth of towns.
- b) Nature of early urban societies.
- c) Historians debate of uses of writing

Section B: Empires

20 Marks

2. An empire across three continents.
Focus: Roman Empire, 27 B.C to AD 600.
- a) Political evolution.
- b) Economic expansion.
- c) Religion.
- d) Late Antiquity.
- e) Debate on the institution of slavery.

3. Nomadic Empires.

Focus: The Mongol, 13th to 14th Century.

- a) The nature of nomadism.
- b) Formation of empires.
- c) Conquests and relations with other states.
- d) Historians' view on nomadic societies and state formation.

Section C: Changing Traditions

20 Marks

4. The Three orders.

Focus: Western Europe, 13th to 16th Century.

- a) Feudal society and economy.
- b) Formation of states.
- c) Church and society.
- d) Historians' view on decline of feudalism.

5. Changing Cultural traditions.

Focus: Europe 14th to 17th Century.

- a) New idea and new trends in literature and arts.
- b) Relationship with earlier ideas.

- 
- c) The contribution of the West Asia.
 - d) Historians' viewpoints on the validity of the notion 'European Renaissance'.

Section D: Paths to Modernization.

25 Marks

- 6. Displacing indigenous People
Focus: North America and Australia, 18th to 20th Century.
 - a) European colonists in North America and Australia.
 - b) Formation of white settler societies.
 - c) Displacement and repression of local people.
 - d) Historians' viewpoints on the impact of European settlement on indigenous population.
- 7. Paths to Modernization.
Focus: East Asia, late 19th and 20th Century.
 - a) Militarization and economic growth in Japan.
 - b) China and the communist alternative.
 - c) Historians' debate on the meaning of modernization.

Maps related to places/ cities mentioned in the above chapters

05 Marks

Scheme of Assessment (Theory)

Question paper contains six sections namely

- 1. **Section –A** contains 10 (Objective Type Questions/MCQs) of 1 mark each.
 $1 \times 10 = 10$ marks
- 2. **Section- B** contains 6 Very Short Answer Type Questions of 2 marks each to be answered in 20 to 30 words. $2 \times 6 = 12$ marks
- 3. **Section – C** contains 6 Short Answer type questions of 4 marks each to be answered in 100 to 150 words. $4 \times 6 = 24$ marks
- 4. **Section - D** contains 3 Long Answer type questions of 8 marks each to be answered in 150 to 200 words. (With Internal Choice) $8 \times 3 = 24$ marks
- 5. **Section – E** contains 1 Passage, having one question of 1 mark and two questions of 2 mark each to be answered in 20 to 30 words = 5 marks
- 6. **Section – F** contains Map work of 5 marks.

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

PROJECT WORK: 20 Marks

For the purpose of project work, the following topics are suggested: -

- I. Archaeological sites in Jammu & Kashmir
- II. Historical monuments of Jammu & Kashmir i.e., Palaces, Forts, Buildings etc.
- III. Arts and Crafts in Jammu & Kashmir like Basohli painting, calligraphy, paper mache etc.
- IV. Description of Dogra Dynasty i.e., List of rulers from Maharaja Gulab Singh to Maharaja Hari Singh
- V. Culture and Heritage of Jammu and Kashmir i.e., description about fairs, melas, festivals, languages, traditions etc.

Scheme of Evaluation for Project Work as per following

1. Project Synopsis	02 Marks
2. Data/ Statistical Analysis/ Map work	03 Marks
3. Visual/ Overall Presentation Work	05 Marks
4. Analysis/ Explanation & Interpretation	05 Marks
5. Bibliography	01 Mark
6. Viva-Voce	04 Marks

BOOK PRESCRIBED:

1. *Themes in World History*, Published by NCERT New Delhi.

ECONOMICS

Maximum Marks: 100
Theory: 80 Marks

Time: 3 hrs
(Project Work: 20 Marks)

Units		Marks
Part A	Statistics for Economics	
	Introduction	05
	Collection, Organisation and Presentation of Data	10
	Statistical Tools and Interpretation	25
		40
Part B	Indian Economic Development	
	Development Experience (1947-90) and Economic Reforms (LPG)	12
	Current Challenges facing Indian Economy	20
	Development Experience of India-A Comparison with neighbours	08
	Theory Paper (40+40 = 80 Marks)	40
Part C	Project Work	20

Part A: Statistics for Economics

Unit 01: Introduction

- Economics- concept and scope
- Meaning, scope, functions and importance of statistics in Economics
- Research design, research objectives and sampling (probability and non-probability type)

Unit 02: Collection, Organisation and Presentation of data

- **Collection of data**-sources of data-primary and secondary; data collection methods and techniques (Questionnaire, Interview, Case Study and Surveys). Census of India & National Sample Survey Organisation.
- **Organisation of Data:**
Meaning and types of variables; Frequency Distribution.
Presentation of Data: Tabular Presentation and Diagrammatic Presentation of Data:
 - (i) Geometric forms (bar diagrams and pie diagrams),
 - (ii) Frequency diagrams (histogram, polygon and ogive) and

(iii) Arithmetic line graphs (time series graph)

Unit 03: Statistical Tools and Interpretation

- Measures of Central Tendency- arithmetic mean, median and mode
- Correlation – meaning and properties, scatter diagram; measures of correlation - Karl Pearson's method (two variables ungrouped data) Spearman's rankcorrelation (Non-Repeated Ranks and Repeated Ranks).
- Introduction to Index Numbers - meaning, types - Wholesale Price Index, Consumer Price Index and index of industrial production, uses of index numbers;Inflation and Index Numbers, Simple Aggregative Method.

Part B: Indian Economic Development

Unit 4: Development Experience (1947-90) and Economic Reforms since 1991:

- A brief introduction of the state of Indian economy on the eve of independence;
- Indian economic systems
- Common goals of Five-Year Plans; NITI Aayog- Overview
- Main features problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI – role & importance) and foreign trade.
- Economic Reforms since 1991 - Features and appraisals of liberalization, globalization and privatization (LPG policy)
- Concepts of demonetization and GST

Unit 5: Current challenges facing Indian Economy

- Human Capital Formation: How people become resource; Role of human capitalin economic development; Growth of Education Sector in India
- Rural development: Key issues - credit and marketing - role of cooperatives;agricultural diversification; alternative farming - organic farming

- Employment: Growth and changes in work force participation rate in formal and informal sectors; problems and policies
- Sustainable Economic Development: Meaning, Effects of Economic Development on Resources and Environment, including global warming
- Seventeen Development Goals – an overview

Unit 6: Development Experience of India

A comparison with neighbours

- India and Pakistan
- India and China

(Issues: economic growth, population, sectoral development and other Human Development Indicators)

Scheme of Assessment (Theory)

Question paper contains four sections namely

1. **Section –A** contains 10 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 10 = 10$ marks
2. **Section- B** contains 10 Very Short Answer Type Questions of 2 marks each to be answered in 20 to 30 words. $2 \times 10 = 20$ marks
3. **Section – C** contains 8 Short Answer type questions of 4 marks each to be answered in 100 to 150 words. $4 \times 8 = 32$ marks
4. **Section - D** contains 3 Long Answer type questions of 6 marks each to be answered in 150 to 200 words. (With Internal Choice) $6 \times 3 = 18$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

Part C (Project Work= 20 Marks)

The students will do the project on the themes, which have primary data, secondary data or both. Case studies of a few organization/ outlets may also be encouraged. Some of the examples of the projects are as follows:

- 
- a. Tourism sector in Jammu and Kashmir
 - b. Agricultural sector in Jammu and Kashmir (horticulture, apiculture and floriculture, etc.)
 - c. Livestock sector in Jammu and Kashmir
 - d. Rural development schemes in India and Jammu and Kashmir
 - e. Financial Literacy
 - f. Economics in curriculum at schools and colleges.

Guidelines for Project Work in Economics (Class XI)

The objective of the project work is to enable learners to:

- g. Probe deeper into theoretical concepts learnt in classes XI
- h. Analyse and evaluate real world economic scenarios using theoretical constructs and arguments
- i. Demonstrate the learning of economic theory
- j. Follow up aspects of economics in which learners have interest
- k. Develop the communication skills to argue logically
- l. The project work will be a mini study to sensitize the students to inculcate research aptitude.
- m. It is advisable to conduct the project work within the district. The students may do Field Visits/ Industrial Tours/ Market Visits, etc.

The expectations of the project work are:

- 1. The teacher will divide the students in groups. Each group will comprise five students or less depending on the number of students in the class. Separate topics shall be assigned to each group.
- 2. Learners will complete only ONE project in each academic session.
- 3. Project should be of 2500-5000 words (excluding diagrams & graphs) neatly typed on A4 format.
- 4. The learners will maintain a proper reference and bibliography.

Role of the teacher:

The teacher plays a critical role in developing thinking skills based on objectives, research methodology, collection of data etc. of the learners.

Besides a teacher should:

- i.Help each group to select a topic based on recently published extracts from the news media, government policies, RBI bulletin, NITI Aayog reports, IMF/World Bank reports etc., after detailed discussions and deliberations of the topic apart from J&K economy
- ii.Play the role of a facilitator and supervisor to monitor the project work of the learner through regular discussions and presentations.
- iii.Guide the research work in terms of sources for the relevant data
- iv.Educate learners about plagiarism and the importance of quoting the source of the information to ensure authenticity of research work
- v. Prepare learners for the presentation of the project work
- vi. The teacher will narrow down the scope and the practicability of the project work in accordance with the research objectives and questions of the study.
The teacher will sensitise students about MLA and APA style of referencing

Format of the project:

Learners may work upon the following steps as suggested below:

1. Choose a title/topic
2. Research design
3. Research objectives / questions
4. Methodology
5. Sampling
6. Data collection technique
7. Analysis of data
8. Presentation and interpretation of data
9. Draw the relevant conclusion
10. Future scope of the study

Expected Checklist:

- Introduction of topic/title
- Identifying the causes, consequences and/or remedies
- Various stakeholders and effect on each of them
- Advantages and disadvantages of situations or issues identified

- Short-term and long-term implications of economic strategies suggested in the course of research
- Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file
- Presentation and writing that is precise and coherent in project file
- Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

Mode of presentation/submission of the Project:

At the beginning, middle and the end of the project work, each group will present the research topic, introduction, objectives, methodology, etc. in the form of power point presentations and incorporate all the relevant suggestions in the final Project File to the teacher/internal examiner. The objective of presenting the project work is to learn from feedback, suggestions, etc. and engage in thorough discussions to develop critical thinking and better insight. The Internal Examiner should ensure that the study submitted by the learners is their own original work. In case of any doubt, authenticity should be checked and verified.

Marking Scheme:

Marks are suggested to be given as –

1. Project work	15 marks
(i) Statement of problem	03 marks
(ii) Methodology	04 marks
(iii) Data analysis	04 marks
(iv) Conclusion	02 marks
(v) References	02 marks
2. Viva-Voice based on the Project work	03marks
3. Attendance	02 marks

BOOKS PRESCRIBED:

1. *Statistics for Economics by NCERT, New Delhi*
2. *Indian Economic Development by NCERT, New Delhi*



GEOGRAPHY

M.Marks:100

Theory: 70 marks

Time: 3 hrs

Practical: 30 marks

A. Fundamentals of Physical Geography

Unit I: Geography as a Discipline

5 marks

- Geography as an integrating discipline, as a science of spatial attributes;
- Branches of geography importance of physical geography.

Unit II: The Earth

5 marks

- Origin and evolution of the earth; interior of the earth Wegener's continental drift theory and plate tectonics; Earthquakes and volcanoes;

Unit III: Land Forms

7 marks

- Land forms and their evolution
- Geomorphic processes—weathering, mass wasting, erosion and deposition; soils—formation

Unit IV: Climate

13 marks

- Atmosphere—compositions and structure, elements of weather and climate;
- Insulation—angle of incidence and distribution; heat budget of the earth—heating and cooling of atmosphere (conduction, convection, terrestrial radiation, advection); temperature – factors controlling temperature; distribution of temperature- horizontal and vertical; inversion of temperature.
- Pressure – pressure belts; winds – planetary seasonal and local, air masses and fronts; tropical and extra tropical cyclones;
- Precipitation—evaporation; condensation—dew, frost, fog, mist and cloud; rainfall—types and world distribution;
- World – climates – classification (Koeppen); greenhouses effect, global warming and climatic changes.

Unit V: Water (Oceans)

5 marks

- Hydrological Cycle
- Oceans—submarine relief; distribution of temperature and salinity; movements of ocean water waves, tides and currents.

B. India—Physical Environment.

Unit VI: Introduction

5 marks

- Location—space relations and India's place in the worlds.

Unit VII: Physiography 7 marks

- Structure and Relief;
- Drainage system; concept and watersheds; the Himalayan and the Peninsular;
- Physiographic divisions.

Unit VIII: Climate, Vegetation and Soil 14 marks

- Weather and Climate—spatial and temporal distribution of temperature, pressure, winds and rainfall, Indian monsoons, mechanism, onset and variability – spatial and temporal; climatic types;
- Natural vegetation – forest types and distribution; wild life; conservation; biosphere reserves;

Unit IX: Natural Hazards and Disasters: Causes, Consequences and Management (One case study to be introduced for each tropic). 9 marks

- Floods and droughts
- Earthquakes and Tsunami
- Cyclones
- Landslides

Scheme of Assessment (Theory)

Question paper contains four sections namely

1. **Section -A** contains 10 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 10 = 10$ marks
2. **Section- B** contains 9 Very Short Answer Type Questions of 2 marks each to be answered in 20 to 30 words. $2 \times 9 = 18$ marks
3. **Section – C** contains 9 Short Answer type questions of 3 marks each to be answered in 100 to 150 words. $3 \times 9 = 27$ marks
4. **Section - D** contains 3 Long Answer type questions of 5 marks each to be answered in 150 to 200 words. (With Internal Choice) $5 \times 3 = 15$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application-based questions.

C. Practical Work 30 Marks

(Internal: 10 Marks, External: 20 Marks)

Unit I: Fundamentals of Maps 08 marks
Maps—types, scales—types construction of linear scales, measuring distance finding

Direction and

Use of symbols;

- Latitude, Longitude and time;
- Map projection—typology, construction and properties of conical with one standard parallel and Mercator's projection.

Unit II: Topographic and Weather Maps

09 marks

- Study of topographic maps (1:50,000 or 1:25,000 Survey of India Maps): contour cross section and identification and landforms—slopes hills, valleys, waterfalls, cliff; distribution of settlements;

Practical Record Book and Viva-Voce

03 Marks

BOOKS PRESCRIBED

1. *Fundamentals of Physical Geography*, Published by NCERT New Delhi.
2. *Practical in Geography*, Published by NCERT New Delhi

POLITICAL SCIENCE

M.Marks: 100
Theory: 80 marks

Time: 3 hrs
Project Work: 20 marks

PART A: Indian Constitution at work

Unit I

- Making of the constitution:** Why do we need constitution? What does a constitution do? Who made our constitution? How did the country's partition affect the working of the constituent assembly? What were the sources of constitutions. **3 marks**
- Fundamental Rights:** Why do we need for a bill of rights in the constitution? What are the fundamental rights provided by the constitution? Why was the right of the property removed from fundamental rights? How have the interpretation by the courts influenced Fundamental Rights? How has provision of Fundamental Rights provided the basis for civil liberties movement in India? What are the fundamental Duties? **5 marks**
- System of representational democracy:** What are the different methods of election? How do these methods affect parties and politics? Why was the post system chosen in India? What have been the effects of this system? Why is there a system of reserved seats? What are the provisions to ensure free and fair elections? What does the Election Commission do? **6 marks**

Unit II

- Executive in a parliamentary system:** Why are parliamentary system chosen over other forms of government? Why does the parliamentary system need a constitutional head? How are the Prime Minister and the Chief Ministers elected? What are the formal and real powers of the President of India? What are the powers of Prime Minister or the Chief Ministers and the Council of Ministers? What are the powers of the Governor? **4 marks**
- Legislature at the central and state level:** Why does the Parliament of India have two Houses? How are the parliament and the state Assemblies constituted? What are the powers of the Rajya Sabha and Lok Sabha? How are the laws passed? How the executive is made accountable? What are the constitutional means to prevent defection? **4 Marks**
- Judiciary:** What is the rule of law? Why do we need an independent judiciary? What are the provisions that ensure the independence of judiciary in India? How are judges appointed? What are the powers of the Supreme Court and the High Court's? How do they use their powers for public interest? **4 Marks**

Unit III

- Federalism:** What is Federalism? How does federalism ensure accommodation of diversities? In which ways is the Indian constitution federal? In which ways does the constitution strengthen the centre? Why are there special provisions for some states and areas? **6 Marks**

8. **Local Government:** Why do we need decentralization of powers? What has been the status of local government in the constitution? What are the basic features of rural and urban local governments? Why has been the effect of giving constitutional status to local governments? **4 Marks**

Unit IV

9. **Political philosophy underlying the constitution:** What are the core provisions of the constitution? What are the visions underlying these core provisions? How are these shaped by modern Indian political thought? **2 Marks**

10. **Constitution as a living document:** How has the constitution changed since its inception? What further changes are being debated? What has the working of democracy done to the constitution? **2 Marks**

PART B: Political Theory

Unit V

11. **Introduction to Political Theory:** What is Politics? Do we find politics in seemingly non-political domain? Can political argument be resolved through reasoning? Why do we need political theory? **4 Marks**

12. **Freedom:** Why is freedom? What are reasonable constraints on individual liberty? How are limits defined? **6 Marks**

13. **Equality:** Do all differences involve in equality? Does equality simply say oneness? What are the major forms of inequality? How can equality be realized? **6 Marks**

Unit VI

14. **Social Justice:** Is justice all about fairness? What is the relationship between justice and equality? What are the different forms of injustice? In which ways can justice be secured? **6 marks**

15. **Rights:** How is a right different from any claim? What are the major kinds of right claims? How do we resolve a conflict between individual and community rights? How does the state enable and obstruct rights? **4 Marks**

16. **Citizenship:** Who is a citizen? What are relevant grounds for inclusion and exclusion? How are new claims to citizenship negotiated? Can we have a global citizenship? **4 Marks**

Unit VII

17. **Nationalism:** How are the boundaries of a nation defined? Must every nation have a state? What demands can a nation make of its citizens? What is the basis of the right to self-determination? **4 Marks**

- 18. Secularism:** What is secularism? Which domains of life does it relate to? What is a secular state? Why do we need secular state in modern life? Is secularism suitable for India? **6 Marks**

Scheme of Assessment (Theory)

Question paper contains five sections namely

1. **Section -A** contains 10 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 10 = 10$ marks
2. **Section- B** contains 9 Very Short Answer Type Questions of 2 marks each to be answered in 20 to 30 words. $2 \times 9 = 18$ marks
3. **Section – C** contains 7 Short Answer type questions of 4 marks each to be answered in 100 to 150 words. $4 \times 7 = 28$ marks
4. **Section - D** contains 1 Passage having three questions of 2 marks each to be answered in 20 to 30 words. $2 \times 3 = 6$ marks
5. **Section - E** contains 3 Long Answer type questions of 6 marks each to be answered in 150 to 200 words. (With Internal Choice) $6 \times 3 = 18$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

Project work (Internal)

20 marks

List of Suggested Topics

1. Making of the Constitution.
2. Elections in India.
3. Working of the Indian Judiciary System.
4. Social Justice: Are ethics followed in Indian Politics
5. Human Rights Act and its gratification in India.
6. Political impact on Indian Legislation.

BOOKS PRESCRIBED

1. *Political Theory*, Published by NCERT New Delhi
2. *Indian Constitution at work*, Published by NCERT New Delhi.

PSYCHOLOGY

M.Marks: 100
Theory: 70 Marks

Time: 3 hrs
Practical: 30 Marks

UNIT-I INTRODUCITON TO PSYCHOLOGY

- Nature and scope of Psychology.
 - Brief historical background of Psychology.
 - Branches of Psychology: Educational, Social, Abnormal, Experimental, Clinical, Industrial Land Cognitive Psychology.
 - Schools of thought in Psychology: Structuralism, Functionalism, Behaviourism and Psychoanalysis.
- 9 marks

UNIT-II METHODS IN PSYCHOLOGY

- Observation, Experimental, Survey & Case Study method.
 - Psychological Testing and its characteristics: Reliability & validity.
- 9 marks

UNIT-III HUMAN DEVELOPMENT

- Meaning of growth and development.
 - Factors influencing development.
 - Overview of development stages: Infancy, Childhood, Adolescence, Adulthood and Old Age.
- 9 marks

UNIT-IV SENSORY, ATTENTIONAL AND PERCEPTUAL PROCESSES

- Meaning of Sensation, Attention and Perception.
 - Laws of perceptual organization.
 - Attentional processes Selective and Sustained Attention, Illusions.
 - Sense Modalities
- 8 marks

UNIT-V LEARNING

- Meaning and characteristics of Learning.
 - Classical and Operant Learning, Observational Learning, Verbal Learning, Skill learning.
 - Factors facilitating Learning.
- 9 marks

UNIT-VI MEMORY AND FORGETTING

- Meaning of Memory & its components.
 - Levels of processing: Sensory memory, Short-term memory, Long-term memory.
 - Forgetting, Nature of Forgetting, Theories of Forgetting (Trace decay, Interference, Retrieval failure).
- 9 marks

UNIT-VII THINKING AND LANGUAGE

- Nature of thinking.
 - Process of thinking, Reasoning, Problem solving and Decision making.
 - Nature and process of creative thinking.
 - Thought and Language, Development of Language and Language use.
- 8 marks

UNIT-VIII MOTIVATION

- Meaning, Cycle of motivation.
 - Psycho-social motives: Achievement, Affiliation and Power.
Maslow's Hierarchy of needs.
- 4 marks

UNIT-IX EMOTIONS

- Meaning of emotion and its characteristics.
- Theories of emotion: James-Lange Theory, Cannon-Bard Theory.
- Emotional reactions: Happiness, Optimism, Anger and Fear.

5 marks

Scheme of Assessment (Theory)

Question paper contains four sections namely

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2. **Section- B** contains 9 Very Short Answer Type Questions of 2 marks each to be answered in 20 to 30 words. $2 \times 9 = 18$ marks
3. **Section – C** contains 9 Short Answer type questions of 3 marks each to be answered in 100 to 150 words. $3 \times 9 = 27$ marks
4. **Section - D** contains 3 Long Answer type questions of 5 marks each to be answered in 150 to 200 words. (With Internal Choice) $5 \times 3 = 15$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

PRACTICALS (External= 20 Marks/Internal = 10 marks)

30 marks

List of Practicals

- Job Satisfaction
- An Experiment related to STM/Divided Attention.
- Attention
- Forgetting
- Achievement motivation
- Happiness
- Reasoning
- Survey Method

Distribution of Marks

Internal written	05 Marks
Viva-Voce	05 Marks
External Written (02 Practicals)	10 Marks
Viva-Voce	05 Marks
File	05 Marks

BOOKS PRESCRIBED

1. *Introduction to Psychology*, Published by NCERT, New Delhi.

SOCIOLOGY

Maximum Marks: 100
Theory: 80 Marks

Time: 3 hrs
Practical: 20 Marks

Unit I: Introduction to Sociology	8 Marks
<input type="checkbox"/> Concept of Sociology: Nature and Subject-Matter.	
<input type="checkbox"/> Emergence of Sociology: Enlightenment, Industrial Revolution, French Revolution.	
<input type="checkbox"/> Society: Concept, Structure, function & types. Society: Functional and Conflict Perspective.	
Unit II: Basic Concepts	8 Marks
<input type="checkbox"/> Social Groups: Concept and Nature, Primary, Secondary and Reference groups.	
<input type="checkbox"/> Social Stratification: Concept and Nature, Caste & Class.	
<input type="checkbox"/> Social Control: Concept and Nature, Agencies of Social Control.	
<input type="checkbox"/> Status and Role: Concept and Nature, Types of Status and Role.	
Unit III: Social Institutions—I	12 Marks
<input type="checkbox"/> Concept and Definition of Social Institution.	
<input type="checkbox"/> Family: Structure and Functions.	
<input type="checkbox"/> Marriage: Concept and Types of Marriage.	
<input type="checkbox"/> Kinship: Concept Terminologies, Types & Rules.	
<input type="checkbox"/> Religion: Concept, Role and Functions.	
<input type="checkbox"/> Education: Role and Functions.	
<input type="checkbox"/> Polity: State, Sovereignty, Legislature, Executive, Judiciary.	
<input type="checkbox"/> Economy: Concept and Nature, Jajmani system, Socialistic & Capitalistic System.	
Unit IV: Culture and Society	8 marks
<input type="checkbox"/> Culture: Concept and Dimensions.	
<input type="checkbox"/> Values, Norms, Folkways, Customs.	
<input type="checkbox"/> Socialization: Agencies of Socialization.	
<input type="checkbox"/> Pluralistic and Culture Ethos-With special reference to J&K.	
Unit V: Doing Sociology	6 Marks
<input type="checkbox"/> Research concepts and its importance in daily life.	
<input type="checkbox"/> Research process and Research design.	
<input type="checkbox"/> Research methods: Qualitative and quantitative (objectivity and subjectivity).	
<input type="checkbox"/> Techniques of data collection: Survey, Case Study, Observation, Questionnaire.	
Unit VI: Classical Sociological Thought	8 Marks
<input type="checkbox"/> August Comte: Law of three-Stages.	
<input type="checkbox"/> Karl Marx: Class and Class Struggle.	
<input type="checkbox"/> Emile Durkheim: Social Fact-Suicide.	
<input type="checkbox"/> Max Weber: Religion.	
Unit VII: Indian Sociological Thought	6 Marks
<input type="checkbox"/> G. S. Ghurye: Caste and Race in India.	
<input type="checkbox"/> D. P. Mukherjee: Tradition and Modernity.	
<input type="checkbox"/> M. N. Srinivas: Sanskritisation.	
<input type="checkbox"/> Imtiyaz Ahmad: Arshafization and Ajlarfization.	
Unit VIII: Social Structure and Processes in Indian Society	8 Marks

- Social Structure: Concept
- Social Processes: Concept, Nature & Types.
- Cooperation, Division of labour.
- Conflict and Competition.

Unit IX: Social Change **8 Marks**

- Social Change: Conflict mode land Evolutionary model.
- Social Order: Deviance and Conformity.
- Social Change in Rural society (Structural & Functional).
- Social Change in Urban Society (Structural & Functional).

Unit X: Environment and Society **8 Marks**

- Ecology and Social Environment (Relationship).
- Preservation of water bodies and their significance with special reference to J&K Dal Lake, Wular, Jhelum, Tawi and Mansar.
- Deforestation and its impact on society.
- Social response to Natural Disaster Earthquake, Floods (J&K).

Scheme of Assessment (Theory)

Question paper contains four sections namely

1. **Section -A** contains 10 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 10 = 10$ marks
2. **Section- B** contains 10 Very Short Answer Type Questions of 2 marks each to be answered in 20 to 30 words. $2 \times 10 = 20$ marks
3. **Section – C** contains 8 Short Answer type questions of 4 marks each to be answered in 100 to 150 words. $4 \times 8 = 32$ marks
4. **Section - D** contains 3 Long Answer type questions of 6 marks each to be answered in 150to 200 words. (With Internal Choice) $6 \times 3 = 18$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

Practical Examination	Marks: 20	Time allotted 3 Hours
External: 15 Marks	Internal: 5 Marks	

INTERNAL

- (A) Project (undertaken during the academic year at school level) 5 Marks
- i. Statement of the Problem 1.5 Marks
 - ii. Methodology/Technique 1.5 Marks
 - iii. Conclusion 2 Marks

EXTERNAL

- (B) Viva-Voce based on the project 5 Marks

(C) Research Design	10 Marks
i. Overall Format	2 Marks
ii. Research Question	2 Marks
iii. Choice of Techniques	2 Marks
iv. Detailed Procedure	2 Marks
v. Limitation of above Technique	2 Marks

B and C can be administered on the day of the External Examination.

BOOKS PRESCRIBED

1. *Introducing Sociology of Class XI published by NCERT, New Delhi.*
2. *Understanding Society: A textbook of Class XI published by NCERT, New Delhi.*

MATHEMATICS

Maximum Marks: 100
Theory: 80 Marks

Time: 3 hrs
Project Work: 20 Marks

No.	Units	Marks
I.	Sets and Functions	23
II.	Algebra	25
III.	Coordinate Geometry	12
IV.	Calculus	08
V.	Statistics and Probability	12
	Total	80
	Internal Assessment	20

Unit-I Sets and Functions

1. Sets

Sets and their representations, Empty set, Finite and Infinite sets, Equal sets, Subsets, Subsets of a set of real number especially intervals (with notations). Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set. Properties of Complement.

2. Relations and Functions.

Ordered pairs. Cartesian product of sets. Number of elements in the Cartesian product of two finite sets. Cartesian product of the set of reals with itself (upto $R \times R \times R$). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special type of relation. Pictorial representation of a function, domain, co-domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions, with their graphs. Sum, difference, product and quotients of functions.

3. Trigonometric Functions

Positive and negative angles. Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity $\sin^2x + \cos^2x = 1$, for all x . Signs of trigonometric functions. Domain and range of trigonometric functions and their graphs. Expressing $\sin(x \pm y)$ and $\cos(x \pm y)$ in terms of $\sin x$, $\sin y$, $\cos x$ & $\cos y$ and their simple applications. Deducing identities like the following:

$$\tan(x \pm y) = \frac{\tan x \pm \tan y}{1 \mp \tan x \tan y}, \cot(x \pm y) = \frac{\cot x \cot y \mp 1}{\cot y \pm \cot x}$$

$$\sin\alpha \pm \sin\beta = 2\sin\frac{1}{2}(\alpha \pm \beta)\cos\frac{1}{2}(\alpha \mp \beta)$$

$$\cos\alpha + \cos\beta = 2\cos\frac{1}{2}(\alpha + \beta)\cos\frac{1}{2}(\alpha - \beta)$$

$$\cos\alpha - \cos\beta = -2\sin\frac{1}{2}(\alpha + \beta)\sin\frac{1}{2}(\alpha - \beta)$$

Identities related to $\sin 2x$, $\cos 2x$, $\tan 2x$, $\sin 3x$, $\cos 3x$ and $\tan 3x$.

Unit-II Algebra

1. Complex Numbers and Quadratic Equations

Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane

2. Linear Inequalities

Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line.

3. Permutations and Combinations

Fundamental principle of counting. Factorial n . ($n!$) Permutations and combinations, derivation of Formulae for ${}^n P_r$ and ${}^n C_r$ and their connections, simple applications.

4. Binomial Theorem

Historical perspective, statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, simple applications.

5. Sequence and Series

Sequence and Series. Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of n terms of a G.P., infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M.

Unit-III: Coordinate Geometry

1. Straight Lines

Brief recall of two-dimensional geometry from earlier classes. Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axis, point-slope form, slope-intercept form, two-point form, intercept form, Distance of a point from a line.

2. Conic Section

Sections of a cone: circles, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section. Standard equations

and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.

3. Introduction to Three-dimensional Geometry

Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points.

Unit-IV: Calculus

1. Limits and Derivatives

Derivative introduced as rate of change both as that of distance function and geometrically. Intuitive idea of limit. Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions. Definition of derivative relates it to scope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.

Unit-V Statistics and Probability

1. Statistics

Measures of Dispersion: Range, Mean deviation, variance and standard deviation of Ungrouped/grouped data.

2. Probability

Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Axiomatic (set theoretic) probability, connections with other theories of earlier classes. Probability of an event, probability of 'not', 'and' and 'or' events

Scheme of Assessment (Theory)

Question paper contains four sections namely

1. **Section -A** contains 10 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 10 = 10$ marks
2. **Section- B** contains 10 Very Short Answer Type Questions of 2 marks each. $2 \times 10 = 20$ marks
3. **Section – C** contains 8 Short Answer type questions of 4 marks each. $4 \times 8 = 32$ marks
4. **Section - D** contains 3 Long Answer type questions of 6 marks each. (With Internal Choice) $6 \times 3 = 18$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

INTERNAL ASSESSMENT	20 MARKS
Periodic Tests (Best 2 out of 3 tests conducted)	10 Marks
Mathematics Activities	10 Marks

Note: For activities NCERT Lab Manual may be referred.

Conduct of Periodic Tests:

Periodic Test is a Pen and Paper assessment which is to be conducted by the

respective subject teacher. The format of periodic test must have questions items with a balance mix, such as, very short answer (VSA), short answer (SA) and long answer (LA) to effectively assess the knowledge, understanding, application, skills, analysis, evaluation and synthesis. Depending on the nature of subject, the subject teacher will have the liberty of incorporating any other types of questions too. The modalities of the PT are as follows:

a) **Mode:** The periodic test is to be taken in the form of pen-paper test.

b) **Schedule:** In the entire Academic Year, three Periodic Tests in Mathematics subject may be conducted as follows:

Test	Pre-Mid-term (PT-I)	Mid-Term (PT-II)	Post Mid-Term (PT-III)
Tentative Month	July-August	November	December-January

This is only a suggestive schedule and schools may conduct periodic tests as per their convenience. The winter bound schools would develop their own schedule with similar time gaps between two consecutive tests.

- c) **Average of Marks:** Once schools complete the conduct of all the three periodic tests, they will convert the Weightage of each of the three tests into ten marks each for identifying best two tests. The best two will be taken into consideration and the average of the two shall be taken as the final marks for PT.
- d) The school will ensure simple documentation to keep a record of performance.
- e) **Sharing of Feedback/Performance:** The students' achievement in each test must be shared with the students and their parents to give them an overview of the level of learning that has taken place during different periods. Feedback will help parents formulate interventions (conducive ambience, support materials, motivation and morale-boosting) to further enhance learning. A teacher, while sharing the feedback with student or parent, should be empathetic, non-judgmental and motivating
- f) **Assessment of Activity Work:**
Throughout the year activities shall be performed by the students from the activities given in the NCERT Laboratory Manual for the respective class (XI or XII). A record of the same may be kept by the student. A year end test on the activity may be conducted.

The Weightage is as under:

- The activities performed by the student throughout the year and record keeping: 5 marks
- Assessment of the activity performed during the year end test: 3 marks
- Viva-voce: 2 marks

BOOKS PRESCRIBED

- 1) *Mathematics Textbook for Class XI, published by NCERT.*
- 2) *Mathematics Lab Manual class XI, published by NCERT.*

PHYSICS

Max.Marks:100

Theory: 70 Marks

Time Allowed: 3 hrs

Practicals: 30 Marks

Unit I: Physical World and Measurement

05 marks

Units and Measurements

Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. Significant figures. Dimensions of physical quantities, dimensional analysis and its applications.

Unit II: Kinematics

09 marks

Motion in a Straight Line

Frame of reference, Motion in a straight line, Elementary concepts of differentiation and integration for describing motion, uniform and non-uniform motion, and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs. Relations for uniformly accelerated motion (graphical treatment).

Motion in a Plane

Scalar and vector quantities; position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors, Unit vector; resolution of a vector in a plane, rectangular components, Scalar and Vector product of vectors. Motion in a plane, cases of uniform velocity and uniform acceleration projectile motion, uniform circular motion.

Unit III: Laws of Motion

07 marks

Laws of Motion

Intuitive concept of force, Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion. Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction, lubrication. Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on a level circular road, vehicle on a banked road).

Unit IV: Work, Energy and Power

06 marks

Work, Energy and Power

Work done by a constant force and a variable force; kinetic energy, work energy

theorem, power. Notion of potential energy, potential energy of a spring, conservative forces: non-conservative forces, motion in a vertical circle; elastic and inelastic collisions in one and two dimensions.

Unit V: Motion of System of Particles and Rigid Body

06 marks

System of Particles and Rotational Motion

Centre of mass of a two-particle system, momentum conservation and Centre of mass motion. Centre of mass of a rigid body; centre of mass of a uniform rod. Moment of a force, torque, angular momentum, law of conservation of angular momentum and its applications. Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions. Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects (no derivation).

Unit VI: Gravitation

06 marks

Gravitation

Kepler's laws of planetary motion, universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy and gravitational potential, escape speed, orbital velocity of a satellite.

Unit VII: Properties of Bulk Matter

09 marks

Mechanical Properties of Solids

Elasticity, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity (qualitative idea only), Poisson's ratio; elastic energy.

Mechanical Properties of Fluids

Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes), effect of gravity on fluid pressure. Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its simple applications. Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas of drops, bubbles and capillary rise.

Thermal Properties of Matter

Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; C_p , C_v - calorimetry; change of

state - latent heat capacity. Heat transfer-conduction, convection and radiation, thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law.

Unit VIII: Thermodynamics

06 marks

Thermodynamics

Thermal equilibrium and definition of temperature, zeroth law of thermodynamics, heat, work and internal energy. First law of thermodynamics, Second law of thermodynamics: gaseous state of matter, change of condition of gaseous state -isothermal, adiabatic, reversible, irreversible, and cyclic processes.

Unit IX: Behaviour of Perfect Gases and Kinetic Theory of Gases

06 marks

Kinetic Theory

Equation of state of a perfect gas, work done in compressing a gas. Kinetic theory of gases - assumptions, concept of pressure, Expression for pressure exerted by a gas. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equipartition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.

Unit X: Oscillations and Waves

10 marks

Oscillations

Periodic motion - time period, frequency, displacement as a function of time, periodic functions and their applications. Simple harmonic motion (S.H.M) and its equations of motion; phase; oscillations of a loaded spring- restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period.

Waves

Wave motion: Transverse and longitudinal waves, speed of travelling wave, displacement relation for a progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats.

Scheme of Assessment (Theory)

Question paper contains four sections namely

1. **Section -A** contains 10 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 10 = 10$ marks
2. **Section- B** contains 9 Very Short Answer Type Questions of 2 marks each to be answered in 20 to 30 words. $2 \times 9 = 18$ marks
3. **Section – C** contains 9 Short Answer type questions of 3 marks each to be answered in 100 to 150 words. $3 \times 9 = 27$ marks
4. **Section - D** contains 3 Long Answer type questions of 5 marks each to be answered in 150 to 200 words. (With Internal Choice) $5 \times 3 = 15$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

PRACTICALS

Time: 03 Hours

Maximum Marks: 30

External: 20 Marks/ Internal: 10 Marks

The record, to be submitted by the students, at the time of their annual examination, has to include:

- Record of at least 8 Experiments [with 4 from each section], to be performed by the students.
- Record of at least 6 Activities [with 3 each from section A and section B], to be performed by the students.
- Report of the project carried out by the students.

SECTION-A Experiments

1. To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorimeter using Vernier Callipers and hence find its volume.
2. To measure diameter of a given wire and thickness of a given sheet using screw gauge.
3. To determine volume of an irregular lamina using screw gauge.
4. To determine radius of curvature of a given spherical surface by a spherometer.
5. To determine the mass of two different objects using a beam balance.
6. To find the weight of a given body using parallelogram law of vectors.
7. Using a simple pendulum, plot its L-T² graph and use it to find the effective length of second's pendulum.
8. To study variation of time period of a simple pendulum of a given length by taking bobs

of same size but different masses and interpret the result.

9. To study the relationship between force of limiting friction and normal reaction and to find the co-efficient of friction between a block and a horizontal surface.

10. To find the downward force, along an inclined plane, acting on a roller due to gravitational pull of the earth and study its relationship with the angle of inclination θ by plotting graph between force and $\sin \theta$.

Activities

1. To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm.
2. To determine mass of a given body using a metre scale by principle of moments.
3. To plot a graph for a given set of data, with proper choice of scales and error bars.
4. To measure the force of limiting friction for rolling of a roller on a horizontal plane.
5. To study the variation in range of a projectile with angle of projection.
6. To study the conservation of energy of a ball rolling down on an inclined plane (using a double inclined plane).
7. To study dissipation of energy of a simple pendulum by plotting a graph between square of amplitude and time.

SECTION-B

Experiments

1. To determine Young's modulus of elasticity of the material of a given wire.
2. To find the force constant of a helical spring by plotting a graph between load and extension.
3. To study the variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P and V, and between P and $1/V$.
4. To determine the surface tension of water by capillary rise method.
5. To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.
6. To study the relationship between the temperature of a hot body and time by plotting a cooling curve.
7. To determine specific heat capacity of a given solid by method of mixtures.
8. To study the relation between frequency and length of a given wire under constant tension using sonometer.
9. To study the relation between the length of a given wire and tension for constant frequency using sonometer.
10. To find the speed of sound in air at room temperature using a resonance tube by two

resonance positions.

Activities

1. To observe change of state and plot a cooling curve for molten wax.
2. To observe and explain the effect of heating on a bi-metallic strip.
3. To note the change in level of liquid in a container on heating and interpret the observations.
4. To study the effect of detergent on surface tension of water by observing capillary rise.
5. To study the factors affecting the rate of loss of heat of a liquid.
6. To study the effect of load on depression of a suitably clamped metre scale loaded at (i) its end (ii) in the middle.
7. To observe the decrease in pressure with increase in velocity of a fluid.

Practical Examination for Visually Impaired Students

General Guidelines

- A. The practical examination will be of two-hour duration.
- B. A separate list of ten experiments is included here.
- C. The written examination in practical for these students will be conducted at the time of practical examination of all other students.
- D. The written test will be of 30 minutes duration.
- E. The question paper given to the students should be legibly typed. It should contain a total of 15 practical skill based very short answer type questions. A student would be required to answer any 10 questions.
- F. A writer may be allowed to such students as per CBSE examination rules.
- G. All questions included in the question papers should be related to the listed practicals. Every question should require about two minutes to be answered. These students are also required to maintain a practical file.
- H. A student is expected to record at least five of the listed experiments as per the specific instructions for each subject.
- I. These practicals should be duly checked and signed by the internal examiner.
- J. The format of writing any experiment in the practical file should include aim, apparatus required, simple theory, procedure, related practical skills, precautions etc.
- K. Questions may be generated jointly by the external/internal examiners and used for assessment. The viva questions may include questions based on basic theory/principle/concept, apparatus/ materials/chemicals required procedure, precautions, sources of error etc.
- L. Items for Identification/Familiarity of the apparatus for assessment in practical's (All experiments)

Spherical ball, Cylindrical objects, vernier callipers, beaker, calorimeter, Screw gauge, wire,

Beam balance, spring balance, weight box, gram and milligram weights, forceps, Parallelogram law of vectors apparatus, pulleys and pans used in the same 'weights' used, Bob and string used in a simple pendulum, meter scale, split cork, suspension arrangement, stop clock/stop watch, Helical spring, suspension arrangement used, weights, arrangement used for measuring extension, Sonometer, Wedges, pan and pulley used in it, 'weights' Tuning Fork, Meter scale, Beam balance, Weight box, gram and milligram weights, forceps, Resonance Tube, Tuning Fork, Meter scale, Flask/Beaker used for adding water.

B. List of Practicals

1. To measure diameter of a small spherical/cylindrical body using vernier callipers.
 2. To measure the internal diameter and depth of a given beaker/calorimeter using vernier calipers and hence find its volume.
 3. To measure diameter of given wire using screw gauge.
 4. To measure thickness of a given sheet using screw gauge.
 5. To determine the mass of a given object using a beam balance.
 6. To find the weight of given body using the parallelogram law of vectors.
 7. Using a simple pendulum plot L-T and L-T² graphs. Hence find the effective length of second's pendulum using appropriate length values.
 8. To find the force constant of given helical spring by plotting a graph between load and extension.
 9. (i) To study the relation between frequency and length of a given wire under constant tension using a sonometer.
(ii) To study the relation between the length of a given wire and tension, for constant frequency, using a Sonometer.
 10. To find the speed of sound in air, at room temperature, using a resonance tube, by observing the two Resonance positions.
- Note:** The above practical may be carried out in an experiential manner rather than recording observations.
- BOOKS PRESCRIBED:**
1. *Physics Part-I, Textbook for Class XI, Published by NCERT.*
 2. *Physics Part-II, Textbook for Class XI, Published by NCERT.*
 3. *Laboratory Manual of Physics, Class XI Published by NCERT.*

CHEMISTRY

Max.Marks: 100

Theory: 70 Marks

Time Allowed: 3hrs

Practicals: 30 Marks

UNIT-1: SOME BASIC CONCEPTS OF CHEMISTRY

07 Marks

General Introduction: Importance of studying chemistry, Historical approach to particulate nature of matter, Laws of Chemical combination (numerical), Dalton's Atomic Theory, Concept of elements, atoms & molecules. Atomic and molecular masses, Mole concept and molar mass, percentage composition, empirical and molecular formula; chemical reactions, stoichiometry and calculation based on stoichiometry.

Unit-II: STRUCTURE OF ATOM

09 Marks

Discovery of electron, proton and neutron, atomic number, isotopes and isobars. Thompson's model and its limitations, Rutherford's model and its limitations. Bohr's model & its limitations, concept of shells and sub-shells. Dual nature of matter and light, de-Broglie's relationship. Heisenberg's uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d- orbitals. Rules for filling electrons in orbitals- Aufbau's principle, Pauli's exclusion principle and Hund's rule. Electronic configuration of atoms, stability of half-filled and completely filled orbitals.

Unit-III: CLASSIFICATION OF ELEMENT AND PERIODICITY IN PROPERTIES

06 Marks

Significance of classification, brief history of the development of periodic table. Modern periodic law and the present form of the periodic table, periodic trends in properties of elements: atomic radii, ionic radii, inert gas radii, ionization enthalpy, electron gain enthalpy, electronegativity, valency.

Unit-IV: CHEMICAL BONDING AND MOLECULAR STRUCTURE

07 Marks

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

Unit-V: THERMODYNAMICS

09 Marks

Concepts of system, types of systems, surrounding, work, heat; energy intensive and extensive properties, state functions. First Law of Thermodynamics, internal energy, enthalpy, heat capacity, specific heat, molar heat capacity, measurement of ΔE and ΔH , Hess's law of constant heat summation, enthalpy of bond dissociation, combustion; formation, atomization, sublimation, phase transition ionization and dilution.

Introduction of entropy as a state function, free energy change for spontaneous and non-spontaneous process and equilibrium.

Unit-VI: EQUILIBRIUM

07 Marks

Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium: Le-Chatelier's principle equilibrium-ionization of acids and bases, strong and weak electrolytes, degree of ionization, Concept of pH. Hydrolysis of salts (elementary idea), buffer solutions. Solubility product, common ion effect (with suitable examples).

Unit-VII: REDOX REACTIONS

04 Marks

Concept of oxidation and reduction, redox reactions, oxidation number, balancing of chemical equations in redox reactions, applications of redox reactions.

Unit-VIII: ORGANIC CHEMISTRY-SOME BASIC PRINCIPLES AND TECHNIQUES

11 Marks

General introduction to organic chemistry, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds.

Electronic displacement in a covalent bond: inductive effect, electromeric effect, resonance and hyper-conjugation. Homolytic and heterolytic fission of a covalent bond, free radicals, electrophiles, nucleophiles, carbocations and carbanions. Types of organic reactions.

Unit-IX: HYDROCARBONS

10 Marks

Classification of hydrocarbons

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

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

Alkynes: Nomenclature, structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of hydrogen, halogens, hydrogen halides and water. Aromatic hydrocarbons introduction, IUPAC nomenclature, Benzene resonance, aromaticity, chemical properties, mechanism of electrophilic substitution-nitration, sulphonation, halogenations Friedel Craft's alkylation and acylation, directive influence of functional group in mono substituted benzene.

Scheme of Assessment (Theory)

Question paper contains four sections namely

1. **Section –A** contains 10 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 10 = 10$ marks
2. **Section- B** contains 9 Very Short Answer Type Questions of 2 marks each to be answered in 20 to 30 words. $2 \times 9 = 18$ marks
3. **Section – C** contains 9 Short Answer type questions of 3 marks each to be answered in 100 to 150 words. $3 \times 9 = 27$ marks
4. **Section - D** contains 3 Long Answer type questions of 5 marks each to be answered in 150to 200 words. (With Internal Choice) $5 \times 3 = 15$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

PRACTICALS

Time: 03 Hours

Maximum Marks: 30

External: 20 Marks/ Internal: 10 Marks

1. CONTENT BASED EXPERIMENTS

A) Organic Preparations:

06 Marks

- 
- i) Preparation of acetylene and study of its acidic character.
 - ii) Preparation of Acetanilide
 - iii) Preparation of p-Nitro acetanilide

B) Characterization and Purification of Chemical Substance:

- i) Determination of melting point of an organic compound (below 100°C)
- ii) Determination of boiling point of an organic liquid.
- iii) Crystallization involving impure sample of any one of the following: Alum, Copper sulfate, Benzoic acid.

C) Experiments Related to pH Change

Any one of the following experiments:

- i) Determination of pH of some solutions obtained from juices and solutions of known and varied concentrations of acids, bases and salts using pH paper/ universal indicator
- ii) Comparing the pH of solutions of strong and weak acid of same concentration
- iii) Study the pH change in the titration of a strong acid with a strong base using universal indicator
- iv) Study of pH change by common-ion effect in case of weak acids and weak bases

D) Chemical Equilibrium:

One of the following experiments

- i) Study the shift in equilibrium between ferric ions and thio cyanate ions by increasing/decreasing the concentration of either ion
- ii) Study the shift in equilibrium between $[Co(H_2O)_6]$ and Cl^- ions by changing the concentration of either ions.

2. Quantitative Estimation:

08 Marks

- i) Setting of a chemical balance and preparation of a standard solution of oxalic acid
- ii) Determination of strength of a given sodium hydroxide solution by titrating it against a standard solution of oxalic acid.
- iii) Preparation of standard solution of sodium carbonate.
- iv) Determination of strength of given solution of dilute hydrochloric acid by titrating it against a standard solution of sodium carbonate.

3. Qualitative Analysis

08 Marks

Determination of one cation and one anion in a given salt (insoluble salts to be excluded):
Cations: Pb^{2+} , Cu^{2+} , As^{3+} , Al^{3+} , Fe^{3+} , Mn^{2+} , Zn^{2+} , Ni^{2+} , Co^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Mg^{2+} , NH_4^+ ,
Anions: CO_3^{2-} , S^{2-} , NO_2^- , NO_3^- , Cl^- , Br^- , PO_4^{3-} , $C_2O_4^{2-}$, CH_3COO^-

4. PROJECT

04 Marks

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

- Study of the methods of purification of water.
- Checking the bacterial contamination in drinking water by testing sulphide ion.
- Testing the hardness, presence of Iron, Fluoride, Chloride, etc., depending upon the regional variation in drinking water and study of causes of presence of these ions above permissible limit (if any).
- Analysis of fruit and vegetable juices for their acidity.
- Preparation of a sample of soap from available oils (Groundnut/Coconut oil).
- Determination of the rate of evaporation of different liquids.
- Study of the effect of acids and bases on the tensile strength of fibers.
- Compare the contents of tannic/ caffeine in various samples of tea and hence their flavor.

5. Class Record and Viva-Voce

04 Marks

Note: Collaboration to seek from nearby Institutions with regard to the performing of practicals/project work.

BOOKS PRESCRIBED:

1. A textbook of Chemistry for class XI published by NCERT, New Delhi.



BIOLOGY

Max.Marks: 100

Theory: 70 Marks

Time Allowed: 3 hrs

Practicals: 30 Marks

SECTION A: BOTANY

Marks: 35

Unit-I. Diversity of Life

9 Marks

Biodiversity: Variety of living organisms; Need and History of classification – Artificial, Natural and Phylogenetic classifications. **Biosystematics:** Taxonomy and Systematics; Concept of species and Taxonomical hierarchy; Binomial nomenclature; Herbarium. Two Kingdom and Five kingdom classifications and their merits and demerits; General characters and classification of Monera, Protista and Fungi; Lichens; Status of Viruses, and Viroids.

Unit -II. Kingdom Plantae

9 Marks

Classification of plants into major groups; General characters of Algae, Bryophyta, Pteridophyta and Gymnosperms and their classes.

Morphology of Flowering plants and their function: Morphology of root, stem and leaf (without their modifications); Morphology of Inflorescence, flower, fruit and seed. Description of family *Solanaceae*.

Unit - III: Plant Anatomy

5 Marks

Tissue systems in plants – Epidermal, ground and vascular tissue systems; Anatomy and functions of dicot and monocot root, stem and leaves.

Unit-IV Plant Physiology

12 Marks

Respiration: Cellular respiration; Glycolysis, Kreb's cycle and Electron transport system (along with ATP energetics); Chemiosmotic hypothesis; Aerobic and Anaerobic respirations; Amphibolic pathways; Respiratory quotient.

Photosynthesis: Historical background; Site of Photosynthesis; Photosynthetic pigments; Mechanism of Photosynthesis – Light dependent phase (Light reaction), Photosystems; Cyclic and non-cyclic photophosphorylations; Light independent (biosynthetic) phase – Calvin (C_3) cycle and Hatch & Slack (C_4) cycle; Factors affecting photosynthesis; Photorespiration.

Plant Growth and Development: Characteristics of plant growth; phases of growth, growth rate, growth curve; conditions of growth; differentiation, dedifferentiation and redifferentiation.

Sequence of developmental process in a plant cell; Plant growth regulators; Discovery and physiological effects of Auxins, Gibberellins, Cytokinins, Ethylene and Abscissic Acid.

SECTION B: ZOOLOGY

Marks: 35

UNIT I: Diversity in Living World

8 Marks

Animal Kingdom; General characters and classification of animals (non-chordates up to phyla level and chordates up to the level of class).

National Parks with special reference to Dachigam, Kishtwar, Salim Ali, Kazinag and Hemis. Concept of Sanctuaries and Biosphere reserves.

Unit - II: Structural Organisation and Animal Biomolecules

7 Marks

Morphology, Anatomy and functions of digestive, circulatory, respiratory, nervous and reproductive systems of Frog.

Basic chemical constituents of living bodies; Bio-molecules: Structure and function of Carbohydrates, proteins, lipids and Nucleic acids; Primary and secondary metabolites.

Enzymes: Types, Properties and functions

Unit-III: Cell Structure and Function

8 Marks

Cell: Brief description of cell; Cell theory; Prokaryotic and Eukaryotic cell, Cell wall, Membrane and Cell organelles (Plastids, Mitochondria, E.R., Golgi, Ribosomes, Lysosomes, Nucleus, Vacuoles, centrioles and Cytoskeleton); Cilia and Flagella; Nuclear organisation.

Cell Division: Cell Cycle, Mitosis and Meiosis.

Unit-V Human Physiology

12 Marks

Breathing and Respiration: Respiratory system in humans; mechanism of breathing and its regulation in humans; respiratory volume; Exchange of gases and their transport; Respiratory disorders.

Body fluids and Circulation: Composition of blood; Blood groups and Rh factor; Lymph; Human Circulatory system; Cardiac cycle and ECG; Double circulation; regulation of cardiac activity; Disorders of circulatory system.

Excretory Products and their Elimination: Modes of excretion; Human excretory system; Urine formation, osmo regulation; regulation of kidney function; Urinary disorders; and artificial kidney.

Locomotion and Movement: Types of movement; Muscle, Contractile proteins and Muscle contraction (Mechanism); Skeletal system and its functions; Joints; Disorders of muscular and skeletal systems.

Neural Control and Coordination: Neuron and nerves; Nervous system in humans; Nerve impulse.

Chemical Coordination and Integration: Human endocrine system; Hormones of Heart, Kidney and G.I. Tract; Mechanism of hormone action (elementary idea); Hormonal disorders.

(Note: diseases of human physiology systems to be taught in brief)

Scheme of Assessment (Theory)

BOTANY

Question paper contains four sections namely

1. **Section –A** contains 5 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 5 = 5$ marks
2. **Section- B** contains 5 Very Short Answer Type Questions of 2 marks each to be answered in 20 to 30 words. $2 \times 5 = 10$ marks
3. **Section – C** contains 5 Short Answer type questions of 3 marks each to be answered in 100 to 150 words. $3 \times 5 = 15$ marks
4. **Section - D** contains 1 Long Answer type question of 5 marks each to be answered in 150 to 200 words. (With Internal Choice) $5 \times 1 = 5$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

ZOOLOGY

Question paper contains four sections namely

1. **Section –A** contains 5 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 5 = 5$ marks
2. **Section- B** contains 5 Very Short Answer Type Questions of 2 marks each to be answered in 20 to 30 words. $2 \times 5 = 10$ marks

- 
3. **Section – C** contains 5 Short Answer type questions of 3 marks each to be answered in 100 to 150 words. $3 \times 5 = 15$ marks
 4. **Section - D** contains 1 Long Answer type question of 5 marks each to be answered in 150to 200 words. (With Internal Choice) $5 \times 1 = 5$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

PRACTICALS

Time: 03 Hours

Maximum Marks: 30
External: 20 Marks/ Internal: 10 Marks

SECTION A: BOTANY

Max. Marks: 15

A. Observation/ Spotting

1. Study of different parts of a Compound Microscope.
2. Study of Specimens and identification with reasons – Bacteria, Algae (*Spirogyra*), Fungi (*Rhizopus*, Mushroom & Yeast); Lichens; Bryophytes (*Marchantia* & *Funaria*); Pteridophyta (*Dryopteris*); Gymnosperms (*Pinus* – male & female cones); Angiosperms (one monocot & one dicot plant).
3. Study of T.S. of dicot and Monocot Root, Stem and Leaf from permanent slides.
4. Study of Leaf (arrangement, shape & venation) and Leaf types (simple & compound).
5. Study and identification of types of inflorescences (Cymose & Racemose).

B. List of Experiments:

1. Description of locally available flowers from the families Solanaceae and Liliaceae.
2. Study of Osmosis by Potato Osmoscope (Osmometer).
3. Study of plasmolysis in epidermal peels (e.g. Onion/Rhoeo/lily leaves).
4. Study of imbibition in seeds/raisins.
5. Study of distribution of stomata on the upper and lower surfaces of leaves.
6. Separation of plant pigments through paper chromatography.
7. Study of the rate of respiration in germinating seeds.

C. Project work

1. Collection and preservation of plant specimens for Herbarium.
2. Biodiversity trip: Visit to a botanical garden/flora rich area and preparation of report.

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- 3. Observations on the experimental set up on Phototropism, Apical bud removal, Anaerobic respiration and Suction due to transpiration.

SECTION – B: ZOOLOGY

Max. Marks: 15

A. Observation/ Spotting

- 1. Study and handling of Compound Microscope.
- 2. Study of specimens/ Virtual specimens/ Models and identification with reasons – *Amoeba*, *Paramecium*, *Hydra*, Liver fluke, *Ascaris*, Leech, Earthworm, Honey bee, Snail, Starfish, Shark, *Labeo*, Frog, Lizard, Pigeon and Rabbit.
- 3. Study of Animal cell and its organelles with the help of Slides/ Charts.
- 4. Study of Mitosis and Meiosis from prepared slides.
- 5. Study of organ systems of Frog with the help of Charts/ Models/Virtual Dissection.
- 6. Study of Human skeleton and different types of joints (virtual images/models only).

B. Experiments

- 1. To Test for presence of urea in urine.
- 2. To test the presence of carbohydrates and protein (albumin) in Urine sample.
- 3. Preparation and study of human blood smear.
- 4. To test the presence of sugar in urine/blood sample.

C. Project work:

- 4. Biodiversity trip: Visit to a zoological garden/ National Park and preparation of report.
- 5. Study of cyclosis in Paramecium.

BOOK PRESCRIBED:

- 1. *A textbook of Biology for class XI published by NCERT, New Delhi.*

BUSINESS STUDIES

Maximum marks:100

Time: 3 hrs

Theory: 80 Marks

Project Work: 20 Marks

Part A: Foundations of Business

Unit I: Nature and Purpose of Business 08 Marks

- Concept and characteristics of business.
- Business, profession and employment– distinctive features.
- Objectives of business–economic and social, role of profit in business.
- Classification of business activities: Industry and Commerce.
- Industry–types: primary, secondary, tertiary.
- Commerce: Trade and Auxiliaries.
- Business risks–nature and causes.

Unit II: Forms of Business Organisation 08 Marks

- Sole Proprietor ship; Joint Hindu Family Business–meaning, features, merits and limitations.
- Partnership– meaning, types, registration, merits, limitations, types of partners.
- Cooperative Societies –types, merits and limitations.
- Company: Private Ltd., Public Ltd–merits, limitations.
- Choice of form of business organisations.
- Starting a business – Basic factors.

Unit III: Private, Public and Global Enterprises 07 Marks

- Private Sector and Public Sector.
- Forms of Organising public sector enterprises:
- Departmental Undertaking
- Statutory Corporation
- Government Company
- Changing role of public sector.
- Global Enterprises (Multinational Companies): meaning and features.

Unit IV: Business Services 07 Marks

- Nature and types of Business services–Banking, Insurance, Transportation, Warehousing, Communication.

- Banking—types of Banks, Functions of Commercial banks, E-banking.
- Insurance: principles, types: life, fire and marine.
- Communication and Transportation.

Unit V: Emerging Modes of Business 05 Marks

- E-Business — Meaning, scope and benefits, Resources required for successful e-business implementation, On-line transactions, payment mechanism, security and safety of business transactions.

Unit VI: Social Responsibility of Business and Business Ethics 05 Marks

- Concept of social responsibility.
- Case for social responsibility;
- Responsibility towards different interest groups: owners, investors, employees, consumers, government, community and public in general;
- Business and environmental protection;
- Business ethics: concept and elements.

Part B: Corporate Organisation, Finance and Trade

Unit VII: Formation of a Company 07 Marks

Stages in the formation of a company:

- Promotion,
- Incorporation,
- Capital Subscription, and
- Commencement of business.

Unit VIII: Sources of Business Finance 10 Marks

- Nature and significance of business finance.
- Classification of Sources – Period, Ownership basis.
- Methods of raising Finance:
 - Equity and Preference shares
 - Debentures and Bonds
 - Retained profits
 - Public deposits
 - Loan from Commercial Banks
 - Loan from Financial Institution
 - Trade Credit

Unit IX: Small Business 06 Marks

- Concept of small business, types;
- Role of small business in rural India;
- Problems of small business in India.

- Government Assistance and Special Schemes for Industries in rural, back ward and hilly areas.

Unit X: Internal Trade

12 Marks

- Meaning and types of internal trade: wholesale and retail;
- Services of a wholesaler and a retailer.
- Types of Retail Trade:
 - Itinerant retailers and fixed shops.
 - Departmental store, super market, malls, chain store, mail order business, consumer's cooperative store
 - Automatic Vending Machine
- Role of Chambers of Commerce and Industry in promotion of internal trade.

Unit XI: International Business

05 Marks

- Nature and Importance of International Business;
- Contract manufacturing; licensing; franchising; Joint ventures and Setting up Wholly Owned Subsidiaries;
- Export-Import procedures and Documentation;
- International Trade Institutions and Agreement: WTO, UNCTAD, World Bank/IMF.

Scheme of Assessment (Theory)

Question paper contains five sections namely

1. **Section -A** contains 8 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 8 = 8$ marks
2. **Section- B** contains 4 Short Answer Type Questions of 3 marks each to be answered in 20 to 30 words. $3 \times 4 = 12$ marks
3. **Section – C** contains 5 Short Answer type questions of 4 marks each to be answered in 100 to 150 words. $4 \times 5 = 20$ marks
4. **Section - D** contains 4 Long Answer type questions of 6 marks each to be answered in 150 to 200 words. (With Internal Choice) $6 \times 4 = 24$ marks
5. **Section – E** contains 2 Long Answer type questions of 8 marks each to be answered in 150 to 200 words. (With Internal Choice) $8 \times 2 = 16$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

PROJECT WORK IN BUSINESS STUDIES

Introduction

The course in Business Studies is introduced at Senior School level to provide students with a sound understanding of the principles and practices bearing in business (trade and industry) as well as their relationship with the society. Business is a dynamic process that brings together technology, natural resources and human initiative in a constantly changing global environment. With the purpose to help them understand the framework within which a business operates, and its interaction with the social, economic, technological and legal environment, the CBSE has introduced Project Work in the Business Studies Syllabus for Classes XI. The projects have been designed to allow students to appreciate that business is an integral component of society and help them develop an understanding of the social and ethical issues concerning them.

The project work also aims to empower the teacher to relate all the concepts with what is happening around the world and the student's surroundings, making them appear more clear and contextual. This will enable the student to enjoy studies and use his free time effectively in observing what's happening around.

By means of Project Work the students are exposed to life beyond textbooks giving them opportunities to refer materials, gather information, analyze it further to obtain relevant information and decide what matter to keep.

Objectives

After doing the Project Work in Business Studies, the students will be able to do the following:

- develop a practical approach by using modern technologies in the field of business and management;
- get an opportunity for exposure to the operational environment in the field of business management and related services;
- inculcate important skills of team work, problem solving, time management, information collection, processing, analysing and synthesizing relevant information to derive meaningful conclusions
- get involved in the process of research work; demonstrate his or her capabilities while working independently and
- Make studies an enjoyable experience to cherish.

GUIDELINES FOR TEACHERS

This section provides some basic guidelines for the teachers to launch the projects in Business Studies. It is very necessary to interact, support, guide, facilitate and encourage students while assigning projects to them.

The teachers must ensure that the project work assigned to the students whether individually or in group are discussed at different stages right from assignment to drafts review and finalization. Students should be facilitated in terms of providing relevant materials or suggesting websites, or obtaining required permissions from business houses, malls etc. for their project. The periods assigned to the Project Work should be suitably spaced throughout the academic session. The teachers MUST ensure that the

students actually go through the rigors and enjoy the process of doing the project rather than depending on any readymade material available commercially.

The following steps might be followed:

1. Students must take any one topic during the academic session of Class XI.
2. The project may be done in a group or individually.
3. The topic should be assigned after discussion with the students in the class and should then be discussed at every stage of submission of the draft/final project work.
4. The teacher should play the role of a facilitator and should closely supervise the process of project completion.
5. The teachers must ensure that the student's self-esteem should go up, and he /she should be able to enjoy this process.
6. The project work for each term should culminate in the form of Power Point Presentation/Exhibition/ Skit before the entire class. This will help in developing ICT and communication skills among them.

The teacher should help students to identify any one project from the given topics.

I. Project One: Field Visit

The objective of introducing this project among the students is to give a firsthand experience to them regarding the different types of business units operating in their surroundings, to observe their features and activities and relate them to the theoretical knowledge given in their text books. The students should select a place of field visit from the following: – (Add more as per local area availability.)

1. Visit to a Handicraft unit.
2. Visit to an Industry.
3. Visit to a Whole sale market (vegetables, fruits, flowers, grains, garments, etc.)
4. Visit to a Departmental store.
5. Visit to a Mall.

The following points should be kept in mind while preparing this visit.

1. Select a suitable day free from rush/crowd with lean business hours.
2. The teacher must visit the place first and check out on logistics. It's better to seek permission from the concerned business-in-charge.
3. Visit to be discussed with the students in advance. They should be encouraged to prepare a worksheet containing points of observation and reporting.
4. Students may carry their cameras (at their own risk) with prior permission for collecting evidence of their observations.

1. Visit to a Handicraft Unit

The purpose of visiting a Handicraft unit is to understand nature and scope of its business, stakeholders involved and other aspects as outlined below

The raw material and the processes used in the business: People /parties/firms

from which they obtain their raw material.

- a) The raw material and the processes used in the business: People /parties/firms from which they obtain their raw material.
- b) The market, the buyers, the middlemen, and the areas covered.
- c) The countries to which exports are made.
- d) Mode of payment to workers, suppliers etc.
- e) Working conditions.
- f) Modernization of the process over a period of time.
- g) Facilities, security and training for the staff and workers.
- h) Subsidies available/ availed.
- i) Any other aspect that the teachers deem fit.

2. Visit to an Industry.

The students are required to observe the following:

- a) Nature of the business organisation.
- b) Determinants for location of business unit.
- c) Form of business enterprise: Sole Proprietorship, Partnership, Undivided Hindu Family, Joint Stock Company (a Multinational Company).
- d) Different stages of production/process
- e) Auxiliaries involved in the process.
- f) Workers employed method of wage payment, training programmes and Facilities available.
- g) Social responsibilities discharged towards workers, investors, society, Environment and government.
- h) Levels of management.
- i) Code of conduct for employers and employees.
- j) Capital structure employed- borrowed v/s owned.
- k) Quality control, recycling of defective goods.
- l) Subsidies available/availed.
- m) Safety Measures employed.
- n) Working conditions for labour in observation of Labour Laws.
- o) Storage of raw material and finished goods.
- p) Transport management for employees, raw material and finished goods.
- q) Functioning of various departments and coordination among them (Production, Human Resource, Finance and Marketing)
- r) Waste Management.
- s) Any other observation.

3. Visit to a whole sale market: vegetables/ fruits/ flowers/ grains/ garments etc.

The students are required to observe the following:

- a) Sources of merchandise.
- b) Local market practices.
- c) Any linked-up businesses like transporters, packagers, money lenders, agents, etc.
- d) Nature of the goods dealt in.
- e) Types of buyers and sellers.
- f) Mode of the goods dispersed, minimum quantity sold, types of packaging employed.
- g) Factors determining the price fluctuations.

- h) Seasonal factors (if any) affecting the business.
- i) Weekly/ monthly non-working days.
- j) Strikes, if any- causes thereof.
- k) Mode of payments.
- l) Wastage and disposal of dead stock.
- m) Nature of price fluctuations, reason thereof.
- n) Warehousing facilities available/availed.
- o) Any other aspect.

4. Visit to a Departmental store

The students are required to observe the following:

- a) Different departments and their lay out.
- b) Nature of products offered for sale.
- c) Display of fresh arrivals.
- d) Promotional campaigns.
- e) Spaces and advertisements.
- f) Assistance by Sales Personnel.
- g) Billing counter at store – Cash, Credit Card/ Debit Card, swipe facility. Added attractions and facilities at the counter.
- h) Additional facilities offered to customers
- i) Any other relevant aspect.

5. Visit to a Mall.

The students are required to observe the following:

- a) Number of floors, shops occupied and unoccupied.
- b) Nature of shops, their ownership status
- c) Nature of goods dealt in: local brands, international brands,
- d) Service business shops- Spas, gym, saloons etc.
- e) Rented spaces, owned spaces,
- f) Different types of promotional schemes.
- g) Most visited shops.
- h) Special attractions of the Mall- Food court, Gaming zone or Cinema etc.
- i) Innovative facilities.
- j) Parking facilities. Teachers may add more to the list.

II. Project Two: Case Study on a Product

- a) Take a product having seasonal growth and regular demand with which students can relate. For example,
 - Apples from Himachal Pradesh, Kashmir.
 - Oranges from Nagpur,
 - Mangoes from Maharashtra/U.P./Bihar/Andhra Pradesh etc.
 - Strawberries from Panchgani,
 - Aloe vera from Rajasthan,
 - Walnuts/almonds from Kashmir,
 - Jackfruit from South,
 - Guavas from Allahabad,
 - Pineapples from North East India,
 - Tea from Assam,

- Orchids from Sikkim and Meghalaya,
- Pottery of Manipur,
- Fishes from coastal areas.

Students may develop a Case Study on the following lines:

- (i) Research for change in price of the product. For example, apples in Himachal Pradesh during plucking and non-plucking season.
- (ii) Effect on prices in the absence of effective transport system.
- (iii) Effect on prices in the absence of suitable warehouse facilities.
- (iv) Duties performed by the warehouses.
- (v) Demand and supply situation of the product during harvesting season, prices near the place of origin and away.

Students may be motivated to find out the importance of producing and selling these products and their processed items along with the roles of Transport, Warehousing, Advertising, Banking, Insurance, Packaging, Wholesale selling, Retailing, Co-operative farming, Co-operative marketing etc.

The teacher may develop the points for other projects on similar lines for students to work on.

The teacher may assign this project as 'group' project and may give different products to different groups. It could conclude in the form of an exhibition.

III. Project Three: Aids to Trade

Taking any one AID TO TRADE, for example Insurance and gathering information on following aspects

1. History of Insurance Lloyd's contribution.
2. Development of regulatory Mechanism.
3. Insurance Companies in India
4. Principles of Insurance.
5. Types of Insurance. Importance of insurance to the businessmen.
6. Benefits of crop, orchards, animal and poultry insurance to the farmers.
7. Terminologies used (premium, face value, market value, maturity value, surrender Value) and their meanings.
8. Anecdotes and interesting cases of insurance. Reference of films depicting people committing fraudulent acts with insurance companies.
7. Careers in Insurance.

Teachers to develop such aspects for other aids to trade.

IV. Project Four: Import /Export Procedure

Any one from the following

1. Import/Export procedure

The students should identify a product of their city/country which is imported/exported. They are required to find the details of the actual import/export procedure. They may take help from the Chambers of Commerce, Banker, existing Importers/Exporters, etc.

They should find details of the procedure and link it with their Text knowledge.

The specimens of documents collected should be pasted in the Project file with brief description of each. They may also visit railway godowns/dockyards/ transport agencies and may collect pictures of the same.

Presentation and submission of project report.

At the end of the stipulated term, each student will prepare and submit his/her project-report.

1. The total project will be in a file format, consisting of the recordings of the value of shares and the graphs.

2. The project will be handwritten.

3. The project will be presented in a neat folder.

4. The project report will be developed in the following sequence-

- Cover page should project the title, student information, school and year.
- List of contents.
- Acknowledgements and preface (acknowledging the institution, the news-papers read, T.V. channels viewed, places visited and persons who have helped).
- Introduction.
- Topic with suitable heading.
- Planning and activities done during the project, if any.
- Observations and findings while conducting the project.
- Newspaper clippings to reflect the changes of share prices.
- Conclusions (summarized suggestions or findings, future scope of study).
- Appendix (if needed).
- Teachers report.
- Teachers will initial preface page.
- At the completion of the evaluation of the project, it will be punched in the centre so that the report cannot be reused but is available for reference only.
- The projects will be returned after evaluation. The school may keep the best projects.

V. Project Five: A visit to any State Emporium (other than your school state).

The purpose of this project is that it leads to -

- Development of deeper understanding of the diversity of products in the states like Assam, Tripura, Nagaland, Mizoram, Manipur, Meghalaya, Sikkim, Arunachal Pradesh,

Jammu and Kashmir, Kerala, Chhattisgarh, Telangana, Andhra Pradesh and other states of the country.

- Sensitization and orientation of students about other states, their trade, business and commerce,
- Understanding the cultural and socio-economic aspects of the state by the students,
- Developing the understanding of role of folk art, artisanship and craftsmanship of the state in its growth and economic development
- Understanding the role of gifts of nature and natural produce in the development of trade, business and commerce.
- Understanding the role of vocational skills and abilities on the livelihood of artisans/craftsmen.
- Understanding of entrepreneurial skills and abilities of the artisans/craftsmen.
- Understanding of the unemployment problem of the state and role of art and craft of the state in generating employment opportunities.
- Value aspect –
- Sense of gratitude - by appreciating the contributions made by others in the betterment of our lives.
- Appreciating the dignity of work.
- Sensitivity towards social, cultural, ethnical and religious differences Benefits of social harmony and peace.
- Understanding and appreciating the unity in diversity in India.
- Appreciating differences in race, skin colour, languages, religion, habits, festivals, clothing coexistence.

Presentation and Submission of Project Report

At the end of the stipulated term, each student will prepare and submit his/her project report.

Following essentials are required to be fulfilled for its preparation and submission.

1. Nature of the business organisation (emporium)
2. Determinants for location of the concerned emporium
3. Is the space rented or owned
4. Nature of the goods dealt in
5. Sources of merchandise of the emporium
6. Role of co-operative societies in the manufacturing and/or marketing of the merchandise
7. Role of gifts of nature or natural produce in the development of goods/merchandise
8. Types of buyers and sellers
9. Modes of goods dispersed, minimum quantity sold and type of carrying bag or package used for delivery of the products sold
10. Factors determining the pricing at the emporium.
11. Comparison between the prices of goods available at the emporium with the prices in the open market. Also highlight probable causes of variations if any.

12. Kind of raw material available naturally, used in making the products.
13. The technique used in making the products i.e., handmade or machine made.
14. Has the child labour been used in making the products sold at the emporium.
15. Are the products eco-friendly, in terms of manufacturing, disposal and packing.
16. Seasonal factors if any affecting the business of the emporium.
17. Weekly/ Monthly non-working days.
18. Mode of billing and payments - Cash, Credit Card/ Debit Card, Swipe facility.
19. Does the emporium sell its merchandise in installment / deferred payment basis.
20. Do they provide home delivery and after sales services.
21. Different types of promotional campaigns / schemes.
22. Assistance by Sales Personnel.
23. Export orientation of this emporium and procedure used.
24. Policies related to damaged/ returned goods.
25. Any government facility available to the emporium.
26. Warehousing facilities available / availed.
27. Impact of tourism on the business of emporium.
28. Additional facility offered to customers.
29. Any Corporate Social Responsibility (CSR) assumed by the emporium.
30. Contribution made by the emporium to its locality.

ASSESSMENT

The marks will be allocated on the following heads.

1	Initiative, cooperativeness and participation	2 Mark
2	Creativity in presentation	2 Mark
3	Content, observation and research work	4 Marks
4	Analysis of situations	4 Marks
5	Viva	8 Marks
Total		20 Marks

BOOKS PRESCRIBED

1. *Business Studies Text Book for Class 11th, Published by NCERT.*
2. *Business Studies Text Book for Class 11th, Published by JKBOSE.*

ACCOUNTANCY

Maximum marks: 100

Time: 3 hrs

Theory: 80 Marks

Project Work: 20 Marks

Financial Accounting –I

Unit-I: Introduction to Accounting

06 Marks

- (i) Book keeping Meaning, Accounting meaning, objectives. Difference between Book-keeping and Accounting, Accounting as source of information, internal and external users of Accounting information and their needs.
- (ii) Qualitative characteristics of Accounting information-reliability, relevance, Understandability and comparability.
- (III) Basic accounting terms: business transaction, account, capital, drawings, Liability (Non- Current and current); Asset (Non- current; tangible, intangible assets, current assets), receipts (capital and revenue), expenditure (capital, revenue and deferred), expense, income, profits, gains and losses, purchases, sales, stock, trade receivables (debtors and bills receivable), trade payable (creditors and bills payable), goods, cost, vouchers, Discount - trade and cash, bad debts, Vouchers (cash and non-cash), source documents. Invoices, cash memo, pay in slip, cheque.

Unit 2: Theory Base of Accounting

06 Marks

- (i) Accounting Principles-concept
- (ii) Accounting principles: Accounting Entity, Money measurement, Going Concern, Accounting Period, Costs Concept, Dual Aspect, Revenue Recognition (Realisation), Matching concept, Accrual, Full Disclosure, and Consistency. Conservatism, Materiality.
- (iii) Bases of Accounting-Cash Basis, Accrual Basis

Unit 3: Recording of Business Transactions

26 Marks

- i. Accounting Equation Approach-Meaning and Analysis of transactions using Accounting Equation.
- ii. Rules of Debit and Credit-traditional and modern approach.
- iii. Recording of Transactions: Books of original entry-Journal, Special Purpose Books: Cash Book:
Simple Cash Book, Cash Book with Discount Column, Cash Book with Bank and Discount Columns, Petty Cash Book. Other books: purchases book, sales book, purchases returns book, sales returns book and journal proper.
- iv. Ledger-meaning, utility, format; posting from Journal and Subsidiary books; Balancing of Accounts.
- V. Bank reconciliation statement- calculating bank balance at accounting date: need and preparation.

Unit 4: Trial Balance and Rectification of Errors

06 Marks

- i. Trial balance: Meaning, objectives and preparation, (Scope: Trial Balance with balance method).
- ii. Error: Types of Errors: Errors of omission, commission, principles and compensating errors affecting Trial Balance; errors not affecting Trial Balance.
- iii. Detection and Rectification of Errors (One Sided and Two Sided); use of Suspense Account.

Unit 5: Depreciation, Provisions and Reserves

10 Marks

- i. Depreciation: Meaning and need for charging depreciation, factors affecting depreciation, methods of depreciation-Straight Line method, Written Down

- Value method (excluding change in method), Method of recording depreciation-charging to asset account, creating provision for depreciation/accumulated depreciation account; Treatment of disposal of asset.
- ii. Provisions and Reserves: meaning, Importance, difference between Provisions and Reserves, types of Reserves: Revenue Reserve, Capital Reserve, General Reserve, Specific Reserve and secret Reserves.

Financial Accounting-II

Unit 6: Financial Statements of Sole Proprietorship from Complete and Incomplete Records 26 Marks

- (i) Financial Statements: Meaning and uses
- (ii) Capital expenditure and deferred revenue expenditure, Trading and Profit and loss account-Gross Profit, operating profit and net profit, Balance Sheet: need, grouping, marshalling of assets and Liabilities. Preparation of Trading and Profit and Loss Account and Balance Sheet of sole proprietorship.
- (iii) Adjustments of preparation of financial statements: with respect to closing stock, outstanding Expenses, prepaid expenses, accrued income; income received in advance, depreciation, bad debts, Provision for doubtful debts, provision for discount on debtors, manager's commission, abnormal Loss, goods taken for personal use and goods distributed as free samples.

Scheme of Assessment (Theory)

Question paper contains five sections namely

1. **Section -A** contains 8 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 8 = 8$ marks
2. **Section- B** contains 4 Short Answer Type Questions of 3 marks each to be answered in 20 to 30 words. $3 \times 4 = 12$ marks
3. **Section – C** contains 5 Short Answer type questions of 4 marks each to be answered in 100 to 150 words. $4 \times 5 = 20$ marks
4. **Section - D** contains 4 Long Answer type questions of 6 marks each to be answered in 150to 200 words. (With Internal Choice) $6 \times 4 = 24$ marks
5. **Section – E** contains 2 Long Answer type questions of 8 marks each to be answered in 150to 200 words. (With Internal Choice) $8 \times 2 = 16$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

Project Work: - 20 Marks

Any one

1. Collection of source documents, preparation of vouchers and presentation of source documents of trading and banking concerns.
2. Preparation of bank reconciliation statements with the given cash book and pass book with 20-25 transactions.
3. Comprehensive project starting with journal entries regarding any sole proprietorship business, posting them to the ledger and preparation of Trial balance. The students

will then prepare Trading and profit and Loss Account on the basis of the prepared trial balance. Expenses, incomes and profit (loss) are to be depicted using pie chart/bar diagram.

The above-mentioned projects should be presented in a project file which should be made available for evaluation.

- Internal Assessment: - 05 Marks
- External Assessment: - 15 Marks

Project File	03 Marks
Written Test	09 Marks
Viva-Voce	03 Marks

BOOKS PRESCRIBED

1. *Accountancy Financial Accounting Part-I, Textbook for Class 11th, Published by NCERT.*
2. *Accountancy Financial Accounting Part-II, Textbook for Class 11th, Published by NCERT*

COMPUTER SCIENCE

Maximum Marks=100

Time: 3 Hrs

Theory =70 Marks

Practical =30 Marks

1. Computer Fundamentals	10 marks
2. Software Concepts	10 marks
3. Number System	10 marks
4. Programming methodology	10 marks
5. Introduction to Python	10 marks
6. Data types and operators	10 marks
7. Strings in Python	10 marks

UNIT 1: COMPUTER FUNDAMENTALS

- History of Computers
- Generations of Computers
- Functions of a Computer
- Block diagram of a Computer system
- Brief description of following functional components of a Computer system:
 - Input devices: Keyboard, Mouse, Scanner, barcode reader
 - Output devices: Monitor, Printer
 - CPU: ALU and CU
 - Memory unit
 - Primary memory: Cache memory, RAM, ROM
 - Secondary memory: Hard disk drive, CD, DVD, Pen drive
 - Units of Memory: Byte, Kilo Byte, Mega Byte, Giga Byte, Tera Byte Peta Byte
 - Concept of PROM, EPROM, EEPROM

UNIT 2: SOFTWARE CONCEPTS

- Definition of Software
- Types of software (System Software, Application Software, Utility Software)
- Need for Operating System
- Functions of Operating System (Processor management, Memory management, File management, Device management)
- Concept of computer languages: Machine language, Assembly language, High level language.
- Language Processors: Assembler, Compiler and Interpreter

UNIT 3: NUMBER SYSTEM

- Number Systems: Decimal, Binary, Octal, Hexadecimal
- Conversion from Decimal number system to Binary, Octal and Hexadecimal number system (Whole numbers only)
- Conversion from Binary, Octal and Hexadecimal number system to Decimal number system (Whole numbers only)
- Conversion from Binary number system to Octal, Hexadecimal number system using shortcut method (whole numbers only)
- Conversion from Octal, Hexadecimal number system to Binary number system using shortcut method (whole numbers only)

UNIT 4: PROGRAMMING METHODOLOGY

- Concept of a Program
- Characteristics of a good program
- Concept of Modular approach
- Program Documentation (Internal & External documentation)
- Program Maintenance
- Debugging a program
- Error and types of errors (Syntax error, Logical error, Runtime error)

UNIT 5: Introduction to Python

- Origin of python
- Unique Features of python
- Python character set
- Tokens (Keywords, Identifiers, Literals, Operators, Punctuators)
- The print and input statement
- comments in python
- Concept of variables
- Rules for naming a variable

UNIT 6: Data Types and operators

- Built-in data types in Python
 - Text type: str
 - Numeric type: int, float
 - Sequence type: list
 - Boolean Type: bool
- Displaying the data type (use of type)
- Type Conversion (from int to float and float to int)
- Operators
 - Arithmetic operators (+, -, *, /, %, **)
 - Comparison operators (==, !=, >, >=, <, <=)
 - Logical operators (and, or, not)
 - Assignment operators (=, +=, -=, *=, /=, %=, **=)
 - Identity operator (is, is not)
 - Membership operator (in, not in)

UNIT 7: Strings in Python

- Defining String
- Assigning string to a variable
- Multiline strings
- Use of len (), upper(), lower(), replace(), in, not in
- Slicing

- Slice from the start
 - Slice to the end
- Use of escape characters in the string (\\", \', \\n, \\t)

Scheme of Assessment (Theory)

The Question paper shall contain - Four sections A, B, C and D. Each section is compulsory.

1. Section A-Question 1 to 10 comprises of 10 questions of 1 mark each (MCQ's, Fill in the blanks, True/False, Assertion-Reason etc.)
2. Section B-Question 11to 19 comprises of 9 Very Short Answer (VSA)-type questions of 2 marks each.
- 3 Section C-Question 20 to 28 comprises of 9 Short Answer (SA)-type questions of 4 marks each.
4. Section D-Question 29 to 31 comprises of 3 Long Answer (LSA)-type questions of 6 marks each with internal choice

PATTERN	MARKS	QUESTIONS	TOTAL
Very Short Questions	01	10	10 Marks
Short Type-I Questions	02	9	18 Marks
Short Type-II Questions	03	9	27 Marks
Long Type Questions	05	3	15 Marks
TOTAL		31	70 Marks

PRACTICALS: 30 Marks (Internal=10: and External=20)

➤ Programming in Python

1. WAP to display "hello world".
2. WAP to add two numbers.
3. WAP to find the length of the string.
4. WAP to convert uppercase string into lowercase and vice-versa.
5. WAP to convert temperature from Celsius to Fahrenheit
6. WAP for displaying multiline strings.
7. WAP to concatenate two strings.
8. WAP to slice a string from start to a particular position in the string.
9. WAP to replace some characters of the string with new characters.
10. WAP to find the area of a square.

➤ Practical file

Practical file must contain the entire mentioned practical.

➤ Viva voce

Viva will be asked from syllabus covered in class XI.

Distribution of 20 marks for External practical

- | | |
|---|------------|
| • Programming (Logic, Syntax, documentation/ Indentation, output) | (10 marks) |
| • Practical file | (05 marks) |
| • Viva | (05 marks) |



INFORMATION PRACTICES (IP)

Maximum Marks: 100

Theory: Marks 70.

Practicals: Marks 30. External: 20 marks, Internal: 10 marks

TOPIC	Marks	Theory Lectures	Practical
Basics of Information Technology	20	40	
Operating System Concepts	10	30	-
Programming Concepts	10	20	
Python Programming	20	35	30
Introduction to Emerging Technologies	10	25	

UNIT –I Basics of Information Technology

Introduction to Information Technology, Data, Information, Importance of Information Technology, Components of Information Technology.

Introduction to Computer: Basic components of a Computer System (CPU, ALU, CU, Memory) and their interconnection, Illustration with Block Diagram, Basic Input and Output devices, Computer Memory and Types of Memory, Computer Storage and Types of Computer Storage, Units of Memory.

Concept of Software, Categories of Software (Open and Closed Source Software), Types of Software (Application and System Software)

Number Systems and Logical Gates: Binary, Octal, Decimal, Hexadecimal and conversions, Basic Logical Gates (AND, OR, NOT) with Truth Tables.

UNIT –II Operating System Concepts

Operating System, Types of Operating System: Batch Operating System Multitasking/Time Sharing Operating System, Multiprocessing Operating System, Real Time Operating System, Distributed Operating System, Network Operating System, Mobile Operating System.

Functions of Operating System: Processor Management, Memory Management, File Management, Device Management. 32-Bit and 64-Bit Operating System. Introduction to Firmware.

Introduction to Microsoft Windows Operating System, Features of Windows Operating System, Versions of Windows Operating System, File structure of Windows Operating System.

UNIT –III Programming Concepts

Introduction to Programming Languages, Categories of Computer Languages: Low Level Language, High Level Languages, Assembly Language, Language Translators: Compiler, Interpreter and Assembler, History of Programming Languages.

Basic Element of Programming Language, Syntax and Semantics of a Programming Language, Introduction to Algorithms, Pseudo code and Flowcharts.

UNIT –IV Python Programming

Basics of Python Programming: Installation and Setup of Python and IDE, Identifiers, Keywords, Constants, Variables, Naming rules of variables, Operators (Arithmetic, Assignment, Comparison, Logical, Identity, Membership and Bitwise), Data Types, Indentation, Statements, Expressions, Input and Output Statements, Control Statement (conditional/selection statements) IF, IF-ELSE, IF-ELIF-ELSE, Looping Structure while Loop and For Loop

UNIT –V Introduction to Emerging Technologies

Big Data, Artificial Intelligence, Machine Learning, Natural Language Processing, Immersive Technologies (Augmented Reality, Virtual Reality), Robotics, Internet of Things (IoT), Cloud Computing and Types of Cloud Services.

Scheme of Assessment (Theory)

The Question paper shall contain - Four sections A, B, C and D. Each section is compulsory.

1. Section A-Question 1 to 10 comprises of 10 questions of 1 mark each (MCQ's, Fill in the blanks, True/False, Assertion-Reason etc.)
2. Section B-Question 11 to 19 comprises of 9 Very Short Answer (VSA)-type questions of 2 marks each.
3. Section C-Question 20 to 28 comprises of 9 Short Answer (SA)-type questions of 4 marks each.
4. Section D-Question 29 to 31 comprises of 3 Long Answer (LSA)-type questions of 6 marks each with internal choice

PATTERN	MARKS	QUESTIONS	TOTAL
Very Short Questions	01	10	10 Marks
Short Type-I Questions	02	9	18 Marks
Short Type-II Questions	03	9	27 Marks
Long Type Questions	05	3	15 Marks
TOTAL		31	70 Marks

PRACTICALS

List of Suggested Practical (Programming in Python)

1. To do basic arithmetic operations.
2. To calculate Simple and Compound Interest.
3. To calculate perimeter/circumference and area of shapes such as triangle, rectangle, square and circle.
4. To find if a number is Even or Odd
5. To find if a number is Prime or Not.
6. To find Total Marks, Percentage and Grade for a given student.
7. To Swap the Two Numbers.
8. To print the multiplication table of a given number.
9. To find the sum of 'n' natural numbers.
10. To find the factorial of a natural number.



ELECTRONICS

Time: 3 hours

Theory: 70 marks

Maximum Marks: 100

Practical: 30 marks.

(Internal: 10 marks, External: 20 marks)

Unit-I

Number Systems:

(Marks = 10)

Number systems, Binary, Octal, Hexadecimal Number Systems and their inter conversion. Binary addition, Subtraction and multiplication, 1's compliment and 2's compliment of a number. Binary Coded Decimal (BCD), Grey Code, Excess 3 code and logic operations.

Unit-II

Boolean algebra and Logic Gates:

(Marks = 15)

Logic Gates (OR, AND, NOT, NAND, NOR, Ex-OR and Ex-NOR and their truth tables). Construction of primary Logic gates using Universal gates. Postulates of Boolean algebra. De-Morgan theorems. Minimization of Boolean functions. Implementation of Boolean expressions using Logic circuits.

Unit-III

Passive components:

(Marks = 15)

Resistors: linear and non-linear, colour coding of carbon Resistors. Brief description of Inductor and Capacitor. Series and Parallel Connections Equivalent value of Resistors, capacitors and inductors in series and parallel combinations. (with numericals), (Derivation only for resistances).

Unit-IV

AC signals and Circuits:

(Marks = 15)

Types of alternating waveforms, definition of amplitude, frequency, time period, Instantaneous value, peak value, rms value, average value and form factor of sinusoidal current and voltage, Relation between f and T, Phase difference, AC through: pure resistance, pure inductance and pure capacitance. Applications of cathode ray oscilloscope (CRO).

Unit-V

Kirchhoff's laws:

(Marks = 15)

Kirchhoff's Current Law (KCL) and Kirchhoff's Voltage Law (KVL) (with numerical), Current Divider Rule (CDR), Voltage Divider Rule (VDR) (with numerical). Analysing Series-Parallel circuits.

Scheme of Assessment (Theory)

The Question paper shall contain - Four sections A, B, C and D. Each section is compulsory.

1. Section A-Question 1 to 10 comprises of 10 questions of 1 mark each (MCQ's, Fill in the blanks, True/False, Assertion-Reason etc.)
2. Section B-Question 11 to 19 comprises of 9 Very Short Answer (VSA)-type questions of 2 marks each.
3. Section C-Question 20 to 28 comprises of 9 Short Answer (SA)-type questions of 4 marks each.
4. Section D-Question 29 to 31 comprises of 3 Long Answer (LSA)-type questions of 6 marks each with internal choice

PATTERN	MARKS	QUESTIONS	TOTAL
Very Short Questions	01	10	10 Marks
Short Type-I Questions	02	9	18 Marks
Short Type-II Questions	03	9	27 Marks
Long Type Questions	05	3	15 Marks
TOTAL		31	70 Marks

PRACTICALS

1. To study OR-Gate using IC-7432, AND-Gate using IC-7408, NOT-Gate using IC-7404. Verification of the truth table of basic logic gates (AND, OR, NOT).
2. Implementation of basic gates using discrete components.
3. Implement the universal gates (NAND and NOR) using the basic logic gates (IC's) and Verification of the Truth Table of NAND and NOR gates
4. To study the De-Morgan's laws using Logic gates.
5. To study the realization of Logic gates using Universal gates.
6. To implement a simple Boolean expression using Logic gates.
7. Identification of Various electronics components from mixed collection of items.
8. To study and understand the various controls of a Digital Multimeter.
9. To find the value of Carbon resistors using color coding and verify with the digital multimeter.
10. To study the use of digital multimeter for
 - a) measuring resistance and check continuity of a given circuit.
 - b) measuring voltage (ac/ dc)
 - c) measuring current (ac/ dc)
11. To find the value of capacitor with the help of a digital multimeter.
12. To verify the laws of combination of resistance (Series and Parallel) using digital multimeter.

- {
13. Verify Voltage Division Rule by digital Multimeter.
14. Verify Current Division Rule by digital Multimeter.
15. To study front panel controls of CRO.
16. To generate various waveforms using a waveform generator and study their characteristics with the help of a CRO.
17. To study how Amplitude, frequency, time period, measurements are done using a CRO
18. Design and implement simple electronic circuits.
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STATISTICS

Maximum Marks: 100

(Theory: 70: Practical: 30)

Unit I: Introduction to Statistics

(06 marks)

Historical overview of Statistics, Definition and Meaning of Statistics, Importance and Scope of Statistics, Statistics Then and Now, New Career options in Statistics, Role of Statistics in Integrated research. Limitations of Statistics.

Unit II: Statistical Data Collection

(06 marks)

Data and its type (Primary, Secondary, Qualitative and Quantitative data), Sources of Secondary data. Method of data collection (Questionnaire and Interview Method). Merits and demerits of these Methods. Presentation of data, Classification and tabulation of data. Discrete and continuous data. Frequency and frequency distribution. Concept of Population and Sample.

Unit III: Graphical Representation of Data

(07 marks)

Representation of data by Graph/diagram, advantages of graphical representation of data, Construction of diagrams/ Charts (Bar chart, Multiple Bar diagram, Sub-divided bar chart, Pie chart), Frequency graphs (Histogram, Frequency Polygon), Cumulative frequency curves (Ogive/ Ojive).

Unit IV: Measures of Location

(08 marks)

Central Tendency meaning, Different Measures of Central Tendency (Mean, Median, Mode, Geometric Mean and Harmonic Mean), Computation of Measures of Central Tendency from Discrete and Continuous data, Essentials of good average. Merits and Demerits of Measures of Central Tendency. Combined Mean and Weighted Mean.

Unit V: Partition Values.

(08 marks)

Concept of Partition values, Distinguish Measure of central tendency and Measures of location, Uses of Partition values, Graphical representation of Median, Concept of Quartiles, Deciles and Percentiles. Percentile Rank, Empirical relation between Mean, Median and Mode, Symmetrical and Asymmetrical data.

Unit VI: Dispersion

(09 marks)

Dispersion and its absolute measures (Rang, Quartile Deviation, Mean Deviation and Standard Deviation). Merits and Demerits of these measures. Relative measures of Dispersion (Co-efficient of Range, Co-efficient of Quartile deviation, Co-efficient of Standard deviation). Co-efficient of variation (C.V).

Unit VII: Moments, Skewness and Kurtosis

(10 marks)

Define Moments Types of Moments (Raw Moments and Centre Moments for discrete and Continuous data) Relationship between Raw and Central Moments

Define Skewness and its types, Measures of Skewness (Karl Pearson, Bowleys and Moment based measure). Kurtosis and its types. Measures of Kurtosis.

Unit VIII: Correlation**(08 marks)**

Concept of Bi-Variate data, Scattered diagram, Concept of Correlation and its types. Methods of Measuring Correlation coefficients (Product moment method, Graphical method). Properties of Correlation coefficient. Rank correlation for simple and repeated Ranks.

Unit IX: Linear Programming and Computer Applications**(08 marks)**

Basic concept of inequalities, Solution of one variable inequalities, Graphical representation of inequalities, Basic concept of Linear programming.

Introduction to Computers, uses of computers in Education, Various components /Units of Computer (Input /Output), Hardware and Software, Concept of flow charts.

Scheme of Assessment (Theory)

The Question paper shall contain - Four sections A, B, C and D. Each section is compulsory.

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3. Section C-Question 20 to 28 comprises of 9 Short Answer (SA)-type questions of 4 marks each.
4. Section D-Question 29 to 31 comprises of 3 Long Answer (LSA)-type questions of 5 marks each with internal choice

PATTERN	MARKS	QUESTIONS	TOTAL
Very Short Questions	01	10	10 Marks
Short Type-I Questions	02	9	18 Marks
Short Type-II Questions	03	9	27 Marks
Long Type Questions	05	3	15 Marks
TOTAL		31	70 Marks

Practical/Project work**(30 marks)**

1. Collection of different categories of data from Schools/Societies/Surrounding area of Institution.
2. Construct different statistical tables from real life data (Frequency table, cumulative frequency table, Exclusive and inclusive tables)
3. Construct diagrams/charts (Bar Charts, Multiple Bar diagram, Pie Chart) from the given data.
4. Construct frequency and cumulative frequency curves to the given data.
5. Evaluate different measures of central tendency from the real-life data.
6. Evaluate different measures of location from given data.

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- 7. Evaluate different measures of dispersion and relative measures of dispersion.
 - 8. Compute raw and central moments from collected data.
 - 9. Estimate Skewness and Kurtosis from given data or Moments.
 - 10. Estimate correlation coefficient from the Discrete and continuous data.
 - 11. Estimate Rank correlation coefficient from ranked and unranked data.
 - 12. Construct a Linear Programming problem from any industrial or social data.



NOTE:

1. The syllabus and marks distribution is strictly in accordance with the rationalized syllabus provided by the NCERT.
2. The internal assessment/ internal Project Work will be evaluated by the concerned subject teacher.



PHILOSOPHY

Maximum Marks -100

Theory- 80 Marks

Time: 03:00 Hrs

Internal Assessment – 20 Marks

Unit I: Nature and Scope of Philosophy **Marks 08**

- 1: Meaning and definition of philosophy
- 2: Nature of philosophy
- 3: Branches of philosophy

Unit II: Origin **Marks 08**

- 1: Origin of philosophy
- 2: Relation of philosophy with science
- 3: Relation of philosophy with religion

Unit III: Theories of Knowledge **Marks 08**

- 1: Rationalism
- 2: Empiricism
- 3: Intuitionism

Unit IV: Different Concepts of God **Marks 08**

- 1: Deism
- 2: Pantheism
- 3: Theism

Unit V: Nature and Scope of Logic **Marks 08**

- 1: What is logic?
- 2: Uses and applications of logic

Unit VI: Introduction to Ethics **Marks 08**

- 1: Meaning and definition of ethics
- 2: Nature of ethics
- 3: Scope of ethics

Unit VII: Hedonism **Marks 08**

- 1: Meaning of hedonism
- 2: Psychological and ethical hedonism
- 3: Utilitarianism

Unit VIII: Theories of Punishment **Marks 08**

- 1: Crime
- 2: Punishment, Theories of punishment (preventive, reformative, retributive)

Unit IX: **Marks 08**

- 1: Mahatma Gandhi- Ahimsa (nonviolence)
- 2: Gautama Buddha- Four noble truths
- 3: Socrates virtue as knowledge

Unit X: Terms and Propositions **Marks 08**

- 1: Definition of term, denotation and connotation of terms
- 2: proposition, classification of propositions

Internal Assessment - 20 Marks

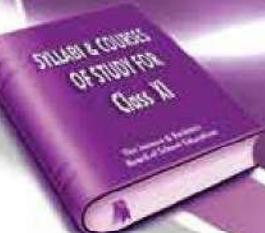
- 1: Assignment- 05 Marks
- 2: Presentation – 05 Marks
- 3: Viva - 05 Marks
- 4: Holistic performances indicators (attendance & discipline) – 05 Marks

Books Suggested:

- 1: An introduction to philosophy by J. N. Sinha
- 2: History of philosophy by R. N. Sharma
- 3: History of philosophy by Bertrand and Russell
- 4: History of philosophy by Frank Thilly
- 5: Introduction to philosophy by Y. Mash
- 6: Introduction to logic by I, M, Copi
- 7: Introduction to logic by Vatsyan
- 8: A manual of ethics by J. N. Sinha
- 9: A manual of ethics by J. S. Mackenzie
- 10: An introduction to ethics by, William Lilly

Scheme and Pattern of the Question Paper

Section	Question Type	Number of Questions	Serial No. in Question paper	Marks for each Question	Total Marks
A.	OBJECTIVE TYPE QUESTIONS	12	1-(I-XII)	01 Marks	12 Marks
B.	VERY SHORT ANSWER TYPE QUESTIONS	12	2-13	02 Marks	24 Marks
C.	SHORT ANSWER TYPE QUESTIONS	05	14-18	04 Marks	20 Marks
D.	LONG ANSWER TYPE QUESTIONS	04	19-22	06 Marks	24 Marks



EDUCATION

M. Marks:100

Time: 3 hrs

Objective:

1. To have complete conceptual clarity of Education and its role.
2. To be familiar with various aims of education and their importance.
3. To have a working knowledge of various agencies leading to education of children.
4. To have current understanding of pre-primary system of education both in Theory and Practice.
5. To have clear understanding of Educational Psychology.

Unit : 1 Meaning and Concept of Education

- 1.1. Etymological meaning of education
- 1.2. Narrow and Broader meaning of education
- 1.3. Definitions – Pestalozzi, Redden, M.K. Gandhi, Dr. Zakir Hussain, Dr. Sir Muhammad Iqbal
- 1.4. Need and importance of education

10 marks

Unit : 2 Understanding Aims of Education

- 1.1. Meaning of aims of education
- 1.2. Meaning and importance of following aims:-
 - ** individual aims
 - ** moral and spiritual aim
 - ** Social aim
 - ** cultural aim
 - ** vocational aim

10 marks

Unit – 3 Understanding Agencies of Education

- 1.1. Meaning of agencies of education
- 1.2. Types
 - ** Formal School and religious institutions
 - ** Informal.... Family and Society
 - ** Non- formal... Open school, Distance education and Mass Media.

10 marks



Unit – 4 Organization & Structure of Education in India

- 4.1 Pre- primary education
- 4.2 Primary education
- 4.3 Secondary education
- 4.4 Higher education

(to be discussed with special reference to organization structure and aims).

10 marks

Unit – 5 Universalization of Elementary Education

- 5.1 Concept of universalization of elementary education
- 5.2 Problems of universalization
- 5.3 Initiatives of elementary education
 - ** Non formal education
 - ** Early childhood care and education
 - ** Sarva Shiksha Abhiyan
 - ** Rights to Education Act (1997)
- 5.4 Wastage and Stagnation.... Causes and control

10 marks

Unit – 6 Educational Psychology

- 1.1. Meaning and definition of Educational Psychology
- 1.2. Stern, Skinner, Judd, Crow & Crow
- 1.3. Need and scope of educational psychology
- 1.4. Methods of educational psychology
 - ** Observation method
 - ** Case – study method

10 marks

Unit – 7 Emotions

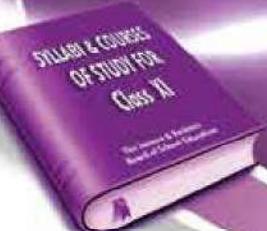
- 1.1. Understanding the concept of emotions
- 1.2. Definitions McDougall, Woodworth, Gates
- 1.3. Characteristics of emotions
- 1.4. Types of emotions – Fear, Anger, Jealousy
- 1.5. Classification proposed by McDougall
- 1.6. Training of emotions: Suvlimation and Catharsis
- 1.7. Importance of training of emotions

10 marks

Unit – 8 Value Education

- 1.1. Conceptual clarity of value education
- 1.2. Types of values (Social, Moral and Religious)
- 1.3. Need and importance of value education
- 1.4. Role of education in imbibing values

10 marks



Unit – 9 Elementary Statistics

- 1.1. Meaning of statistics
- 1.2. Tabulation of Data into Frequency distribution
- 1.3. Graphic Representation of Data
 - ** Frequency Polygon
 - ** Histogram
 - ** Pie- chart
 - ** Ogive
- 1.4. Measures of central tendency – Mean, Median and Mode (calculations only) 10 marks

Unit – 10 Environmental Education

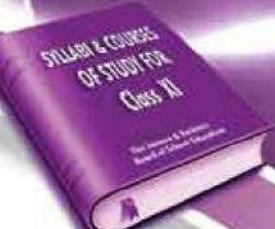
- 10.1. Concept of environmental education
- 10.2. Aims and objectives of environmental education
- 10.3. Needs and importance of environmental education
- 10.4. Environmental Pollution ... Air, Water and Noise
(Meaning Causes and Control) 10 marks

Books Suggested:

1. A textbook of Education by Dr. G. Rasool and Dr. H.P Mangotra.
2. Education for Beginners by N.A. Nadeem, Fullbright Publishing Co, Karan Nagar, Srinagar.
3. Principles & Techniques of Education by Safaya and B.D. Shida.
4. Educational Psychology by S.K. Mangal.

SCHEME OF ASSESSMENT

PART	Question Type	Question no. to be shown in question paper	Number of Questions	Marks for Each Question	Total Marks
A	OBJECTIVE TYPE QUESTIONS	Q.1 (I-XX)	20	1 Mark	20
B	PASSAGE BASED QUESTIONS	Q.2 & Q.3	2	5 Marks	10
C	VERY SHORT ANSWER TYPE QUESTIONS	Q.4- Q.12	9	2 Marks	18
D	SHORT ANSWER TYPE QUESTIONS	Q.13- Q.19	7	4 Marks	28
E	LONG ANSWER TYPE QUESTIONS	Q.20-Q.23	4	6 Marks	24
Grand Total			42		100



HOME SCIENCE (ELECTIVE)

Home Science as a discipline aims to empower learners by developing understanding of four different areas, namely:

- Food and Nutrition.
- Human Development.
- Community Resource Management and Extension.
- Fabric and Apparel Science.

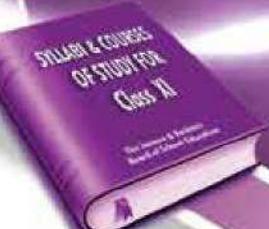
The subject helps students to understand changing needs of Indian society, academic principles as well as develop professional skills.

This would make them competent to meet challenges of becoming a responsible citizen.

Objectives:

The Syllabus at Senior Secondary level develops in the learners an understanding that the knowledge and skills acquired through Home Science facilities development of self, family and community it endeavors to.

1. Acquaint learners with the basics of human development with specific reference to self and child.
2. Help develop skills of judicious management of various resources.
3. Enable learners to become alert and aware consumers.
4. Impart knowledge of nutrition and lifestyles to enable prevention and management of disease.
5. Inculcate healthy food habits.
6. Help develop understanding of textiles for selection and care of clothes.
7. Develop skills of communication to assist in advocacy and dissemination of knowledge to community.



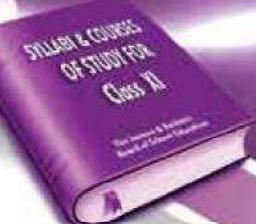
Home Science

Maximum Marks:100

Time: 3 hrs

Theory: 70 Marks (Practical: 30 Marks)

Unit I:	Concept of Home Science and its Scope	3 marks
	<ul style="list-style-type: none">• Definition and meaning of Home Science.• Historical review of development of Home Science as a discipline.• Its scope and interdisciplinary approach.	
Unit II:	Growth & Development	12 marks
	<ul style="list-style-type: none">• Understanding the concept of Growth and development: The basic principles of development and the difference b/w Growth and development.• Life span of different stages of growth.• Adolescence definition.• Characteristics.• Physical development – Growth spurt, Sexual development.• Social and emotional development: Family and socialization, Parental Control techniques, Role of siblings and grandparents, Development of peer relationship & Friendship pattern, Interest in opposite sex, development of gender role, stereotype, Role of school and teacher, Identity crises, storm and stress, Anger Management.• Cognitive development: Meaning & Characteristics.	
Unit III:	Some Problems Related to Adolescence	12 Marks
	<ul style="list-style-type: none">• Awkwardness due to growth spurt, freedom and control, depression, alcohol, drugs and smoking, delinquency, problems related to sex; ignorance and increased Curiosity, Presentation of HIV/ AIDS and other sexually transmitted diseases; Adolescence a period of stress.	
• Important Development Task		
	<ul style="list-style-type: none">• Role of heredity and environment (family, peers, school and neighborhood), preparing, Role of parents and teachers solving adolescence problems.	
• Population Education		
	<ul style="list-style-type: none">• Population explosion definition – Causes, effects of over population and its Control.• Population Education and its aims.• Importance of girl child; Govt. incentives to improve status of girl child (with special ref: to state).	



Unit IV: Introduction to Fabrics

8 Marks

- **Classification of fibres:**

Nature (Cotton, Silk and Wool).

Man-made (Regenerated & Synthetic), (Rayon, nylon and polyester).

Blends – Characteristics (terry cot, terry silk, terry wool).

Characteristics of fibres: Physical & Chemical properties.

- **Fabric Construction:**

Yarn making: Basic procedure of making yarn.

Weaving: Construction of weaves, types of weaves – plain (basket and rib), twill, sateen & satin weave.

A brief mention of special weaves (Pile and jacquard weaves).

Knitting and non-woven fabrics.

Felting and bonding.

Effect of weaves on appearance, durability and maintenance of garments.

- **Fabric Finishes:**

Meaning and importance.

Classification of finishes.

Basic finishes: (Cleaning, Scouring), singeing, bleaching, stiffening, calendaring and tentering).

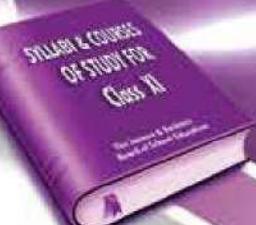
Special finishes (Mercerization shrinkage control) (Sanforizing, water proofing), dyeing & Printing.

Handlooms of J&K.

Unit V: Nutrition for Family

9 Marks

- Definition and relationship between food, nutrition, health, nutritional status, signs of good health; physical status, psychological status, mental ability, mortality and longevity.
- Classification of foods on the basis of nutrients and functions; Physiological, and socio-cultural, nutritional status and calorie intake on the basis of poverty line.
- Selection of foods for optimum nutrition and good health; basic knowledge of nutrients sources, function, deficiency and prevention of proteins, Carbohydrates, fat, dietary fibre, vitamin – A, D, B, B2 Niacin, Folic acid B12 and Vit C, minerals – Calcium, Iron and Iodine. Basic foods group (ICMR) and their contribution, concept of balanced diet food and nutritional requirement for family (ICMR Tables); factors influencing selection of food culture, family food practices media, peer group and availability of foods (with special reference to J&K).
- Nutritional problems of adolescents – IDD, Anaemia.
- Eating disorders of adolescents.



Unit VI: Maximum Nutrition Value From Food by Proper Selection, Preparation, Cooking and Storage. 9 Marks

- Selection and storage of foods – perishable semi-perishable, non-perishable, convenience foods, reasons for spoilage; brief description of household methods of preservation – refrigeration, dehydration use of chemicals and house hold preservation, Cooking: Principles of cooking :Methods of cooking boiling, steaming, pressure cooking, deep and shallow frying parboiling, sautéing, roasting and grilling, effects of cooking on the nutritive value of food. Method of enhancing nutritive value – germination, fermentation, fortification and proper food combination.

Unit VII: Resource Management 9 Marks

- Resource – Meaning, types and characteristics.
- Community facility/shared resources: school, parks, hospitals, roads, transports, water, electricity, library fuel and fodder.
- Need to manage the resources and methods of Conservation of shared resources.
- Management.
- Meaning need and steps in management.
- Decision making and its role in management.

Unit VIII: Time and Energy Management 8 Marks

- Need and procedure for managing time for occupation and leisure.
- Work simplification meaning and methods, types and ways of reducing fatigue.
- Work ethics – meaning and its importance.

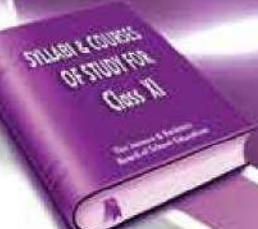
PRACTICAL

Marks: 30

Time: 3 hrs

Unit Marks

1. Concept of Home Science	8 marks
2. Growth & Development	7 marks
3. Nutrition for self and family	7 marks
4. Resources management	5 marks
5. Clothing, selection & care	3 marks
6. Record	
7. Viva	



Unit I: Concept of Home Science – Making Charts and Posters.

Unit II:

- Observation of Adolescence strength and weaknesses and suggestions for utilization of strength and weaknesses to overcome them.

Unit III: Nutrition for Self & Family

Activity: Look for signs of good health within your family.

Activity: Make a list food available in the local market according to food groups.

Practical: Diet plan for Adolescence.

Practical: Preparing nutritious snacks, Canteen meal. Using different methods of cooking.

Practical: Household methods of food preservation (Jam, Squash, Pickles/ Chutney)

Unit IV: Resource Management

Activity: Observe & list resources available at home & in neighbor and suggest improvements

Activity: Observe and make a list of resources materials, surrounding at home & community
– make an article of waste product.

Practical: Make flower & foliage arrangements, floor decorations, Clean & polish copper or brass, glass & iron.

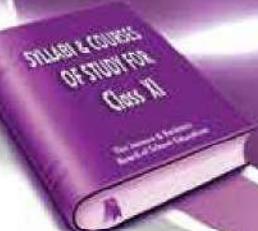
Unit V: Introduction to Clothing

Activity: Collect samples of fabrics & study characteristics for identification.

Activity: Collect samples of weaves & identify them.

Practical: Carry out burning test, slippage test, tearing test & test for colour fastness.

Practical: Dyeing – tie & dye, Block printing.



MUSIC

Maximum Marks:100

Time 2 ½ hrs

Theory:50 (Practical:50)

Unit – I

Marks: 25

1. Writing of atleast ten Alankars in Shudh Swaras only.
2. Writing of Swar Malika of Lakshan Geet in Raag Bilawal and Rag Yaman.
3. Write the Nation of the Taalas in single and double layakaries prescribed in the course of study (i) Teen tal (ii) Kehrva (iii) Dadra

Unit – II

1. Define the following Musical Terms.
2. Naad, Shruti, Swar, Saptak, Sangeet, Vadi Swar, Samvadi Swar, Anuvadi Swar, Variya Swar, alankar, Aroh, Avorh, Pakad.
3. Detail Study of the following with its comparison:
4. Thaat- Raag (ii) Classical – Semi – Classical Music.
5. Swar: Chal, Achal, Shudh, Komal, Teervra Swar (with examples)

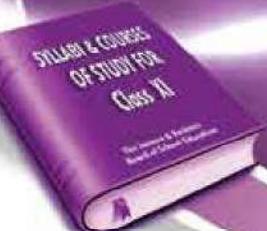
Unit – III

Marks: 25

1. Write Notation in Bhatkande Notation System of the following Raags. (Chota Khaya/ Razakhani Gat)
2. Full Definition of the Raagas prescribed in the course of study.

Unit – IV

1. Life History and contributions of the following Musicians:
(i) Pt. Vishnu Narayan Bhatkhande (ii) Swami Haridas
2. Essay Type
(i) Lok Sangeet and Shastriya Sangeet.
(ii) Importance of Taal and Laya in Music.
(iii) Importance of Music in life.
3. Draw and explain the parts of Tanpura/ Sitar
4. Style of Singing and Playing
(i) Khayal Gayaki (ii) Dhrupad Gayaki (iii) Maseetkhani Gat & Razakhani Gat



PRACTICALS

Time: 3 hrs

50 Marks

Marks

1st Test in Practical
2nd Test in Practical
Practical file and impression

20

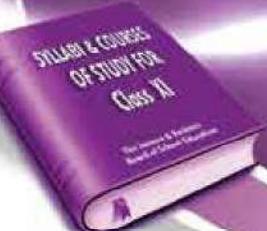
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10

1. Alankars in Bilawal Thaat.
2. Raag Bilawal and Raag Yaman (Swar Malika/ Lakshan Geet).
3. Playing of teen Taal, in single and double Layakaries.
4. Any folk song of your State/ Different Bolts of Mizrab.
5. Singing/ playing of Alankars in Kalyan thaat.
6. Raag Bilawal and Raag Yaman (Chota Khayal or Razakhani Gat with four Tanas and Todas)
7. Playing of Teentaal, Dadra and Kehrva Taal in Single and double layakaries.
8. Any Classical based Filmi song or Folk song.

Books Suggested:

1. Sangeet Visharad.
2. Sangeet Shastra Darpan I and II.
3. Kramik Pustak Malika Part – I and Part – II.



APPLIED MATHEMATICS

TIME: 3 HOURS

MAX MARKS: 100

80 (THEORY) +20 (INTERNAL ASSESSMENT)

Unit 1st Sets, Relations and Functions 12 marks

Sets and their representation, finite and infinite sets, empty sets, equality of sets, subset, powerset, universal set, venn diagram, compliment of a set, Algebra of sets (Union, intersection and difference of sets) Demorgan's laws, Cartesian product of sets.

Relations, types of relations (equivalence relation)

Definition of a function and its various types.

Unit 2nd Complex numbers and Quadratic equations 09 marks

Definition of a complex number, its representation Conjugate of a complex number, modulus of a complex number, amplitude of a complex number. Square root of a complex number. Cube roots of unity and its properties. Quadratic Equations with complex coefficients and roots.

Unit 3rd Sequences and Series 09 marks

Geometric progression, general term sum to n terms and sum to infinity of a geometric series. Geometric and arithmetic means, Evaluation of Σn , Σn^2 and Σn^3 .

Unit 4th Trigonometry 10 marks

Trigonometric ratios of allied angles (without proof) sum difference formulae and their applications. Solution of trigonometric equations.

Unit 5th Permutations, Combinations & Binomial theorem 13 marks

Factorial notation, fundamental principle of counting. Meaning of P (n, r) & C (n, r) and their relations with simple applications.

Binomial theorem for any index. General term, middle terms of a Binomial Expansion. Application of binomial expansion.

Unit 6th Co- ordinate Geometry 10 marks

2 – Dimensional Geometry: Applications of section formula (centriod, incentre and orthocenter of a triangle), Equation of straight line in various forms condition of perpendicularity and parallelism.

Equation of a circle in general and standard form and in diametric form.

3 – Dimensional Geometry: Distance formula, Section formula, direction cosines and direction ratios. Projection of a line with respect to another line Angle between two lines.



Unit 7th Probability

08 marks

Random experiment and sample space. Event of a sample space and its various types. Axiomatic probability.

09 marks

Unit 8th Vectors

Definition of a vector & its representation, type of vectors, components of a vector, addition of vectors, scalar (or dot) product of vectors, Vector (or cross) product of vectors, Scalar triple product (Geometrical representation).

Scheme of Assessment (Theory)

Question paper contains four sections namely

1. **Section -A** contains 10 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 10 = 10$ marks
2. **Section- B** contains 10 Very Short Answer Type Questions of 2 marks each. $2 \times 10 = 20$ marks
3. **Section – C** contains 8 Short Answer type questions of 4 marks each. $4 \times 8 = 32$ marks
4. **Section - D** contains 3 Long Answer type questions of 6 marks each. (With Internal Choice) $6 \times 3 = 18$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

INTERNAL ASSESSMENT	20 MARKS
Periodic Tests (Best 2 out of 3 tests conducted)	10 Marks
Mathematics Activities	10 Marks

SUGGESTED TEXTBOOK

- 1) Mathematics Textbook for Class XI, published by NCERT.

ISLAMIC STUDIES

MAX. MARKS: (80+20=100)

Units:

1. *Islamic Studies: Definitions and Scope*
2. *Faith in Islam and its Articles*
3. *Prophet-hood (Risalah) in Islam*
4. *Man in the Universe*
5. *Faith in Practice*
6. *Life of Prophet Muhammad (SAW) at Makkah*
7. *Life of Prophet Muhammad (SAW) at Madinah*
8. *Treatment towards other communities*
9. *Da'wah and other Developments*
10. *The Day to Day life of Prophet (SAW) a brief account.*

SCHEME OF ASSESSMENT FOR ISLAMIC STUDIES

(80 marks)

Section A: Ten questions based on multiple choice, fill in the blanks, etc
(1x10=10marks)

Section B: Ten out of twelve very short answer type questions to be answered in 10-20 words each
(2x10-20 marks)

Section C: Eight out of ten short answer type questions to be answered in 80-100 words each
(8x4=32 marks)

Section D: Three out of five long answer type questions to be answered in 130-150 words each
(3x6=18 marks)

Internal Assessment (20 marks)

- | | |
|---|----------|
| 1. Project work/assignments on critical thinking/ problem solving/
understanding the text | 05 marks |
| 2. Field trip to important Islamic sites/places | 05 marks |
| 3. Periodic pen paper tests/quizzes | 05 marks |
| 4. Group discussion/ debate/ seminar/ other activities about emerging
contemporary problems in Islamic world | 05 marks |



(बहुते जवाब आहले सुआल)

सुआल -1

 $5+5+5 = 15$

(क) 'रिश्मां'कतावै च संकलत काव्य-रचनाएं ते एकांकी थमां कुसै इक पद्यांश गी चंगी चाल्ली पढ़ियै पुच्छे गेदे सुआलें दे जवाब देओ।

(ख) 'रिश्मां'कतावै च संकलत निवंधें थमां कुसै इक गद्यांश गी चंगी चाल्ली पढ़ियै पुच्छे गेदे सुआलें दे जवाब देओ।

(ग) 'रिश्मां'कतावै च संकलत क्हानियें थमां कुसै इक गद्यांश गी चंगी चाल्ली पढ़ियै पुच्छे गेदे सुआलें दे जवाब देओ।

(दरम्याने जवाब आहले सुआल)

सुआल -2

 $4+4+4+4 = 16$

- (क) 'रिश्मां'कतावै च संकलत कुसै इक कवि दा साहित्यक परिचे जां कुसै इक कविता दा सार (विकल्प समेत)
- (ख) 'रिश्मां'कतावै च संकलत कुसै इक क्हानीकार दा साहित्यक परिचे (विकल्प समेत)
- (ग) 'रिश्मां'कतावै च संकलत कुसै इक निवंधकार जां एकांकीकार दा साहित्यक परिचे (विकल्प समेत)
- (घ) 'रिश्मां'कतावै च संकलत कुसै गज्जल, गीत ते कुंडली दा सार जां कुसै कवि दा साहित्यक परिचे (विकल्प समेत)

(लौहके जवाब आहले सुआल)

सुआल- 3

- (क) 'रिश्मां'कतावै च संकलत कविताएं, गज्जले वारै 3 सुआल..... $3+3+3=9$
- (ख) 'रिश्मां'कतावै च संकलत निवंधें ते एकांकी वारै 3 सुआल..... $3+3+3=9$
- (ग) 'रिश्मां'कतावै च संकलत क्हानियें वारै 3 सुआल..... $3+3+3=9$

सुआल - 4

- (क) 'रिश्मां'कतावै च संकलत काव्य-रचनाएं ते एकांकी वारै 2 सुआल..... $2+2=4$
- (ख) 'रिश्मां'कतावै संकलत निवंधें वारै 2 सुआल..... $2+2=4$
- (ग) 'रिश्मां'कतावै संकलत क्हानियें वारै 2 सुआल..... $2+2=4$

सुआल – 5 व्याकरण

(क) इक दरखास्त (विकल्प समेत)	4
(ख) प्लुत चिंच आहूले शब्द , मुहावरे ते खुआन.....	3
(ग) शब्दार्थ, समानार्थक ते विलोम.....	3

अंदरूनी मूल्यांकन (INTERNAL ASSESSMENT)

1. प्रोजेक्ट सरबंधी कम्म च डोगरी भाशा दियें विशेषताएं सरबंधी लेख शामल कीता जाहग	15
2. मौखिकी (VIVA)	5

वैदिक अध्ययन

पूर्णांक : 80

समयावधि : 3 घंटे

इकाई 1— वैदिक अध्ययनः परिभाषा एवं विषयक्षेत्र

10 अंक

- क. वैदिक अध्ययन की परिभाषा एवं विषयक्षेत्र
- ख. वेद की परिभाषा
- ग. वेदों का महत्त्व
- घ. ऋग्वेद, यजुर्वेद सामवेद एवं अथर्ववेद का सामान्य परिचय

इकाई 2— वेदों की उत्पत्ति

10 अंक

- क. पौरुषेय अथवा अपौरुषेय
- ख. ऋषि एवं ऋषिकाएँ

इकाई 3— वैदिक देवता एवं देवियां

10 अंक

- क. वैदिक देवताओं की प्रकृति एवं वर्गीकरण
- ख. भूमिस्थानीय देवता
- ग. अन्तरिक्ष स्थानीय देवता
- घ. द्युस्थानीय देवता
- ड. बहुदेववाद एवं एकेश्वरवाद या अद्वैतवाद

इकाई 4— परवर्ती वैदिक—साहित्य

10 अंक

- क. ब्राह्मण ग्रन्थ
- ख. आरण्यक ग्रन्थ
- उपनिषद्

इकाई 5— वैदिक समाज

08 अंक

- क. वैदिककालीन परिवार, विश्, जन एवं वर्ण
- ख. वैदिककालीन शिक्षा, वेशभूषा, खाद्य एवं पेय
- ग. वैदिककालीन रीति—रिवाज, कर्तव्य एवं चार आश्रम

इकाई 6— नारी की स्थिति एवं भूमिका

08 अंक

- क. नारी को शिक्षा का अधिकार
- ख. वैवाहिक स्थिति
- ग. विधवाओं की स्थिति
- घ. स्त्री का सम्पत्ति पर अधिकार

इकाई 7— राजनीति एवं प्रशासन व्यवस्था 08 अंक

- क. राज्य की प्रकृति, राजतन्त्रीय एवं गणतन्त्रीय शासन प्रणाली
- ख. वैदिककालीन राजा एवं उसके मुख्य अधिकारी
- ग. प्रमुख समाएं

इकाई 8— आर्थिक जीवन 08 अंक

- क. कृषि एवं पशुपालन
- ख. व्यवसाय एवं उद्योग
- ग. वाणिज्य एवं व्यापार

इकाई 9— वैदिक मूल्य 08 अंक

- क. सामाजिक मूल्य
- ख. नैतिक मूल्य

**आंतरिक मूल्यांकन परीक्षा
पाठ्यक्रम**

अंक— 15+5 = 20

समय— 1 घंटा

इकाई 1— वैदिक अध्ययनः परिभाषा एवं विषयक्षेत्र 10 अंक

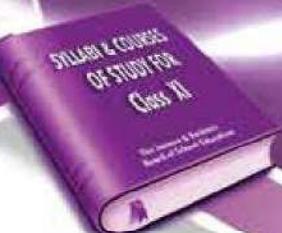
- क. वैदिक अध्ययन की परिभाषा एवं विषयक्षेत्र
- ख. वेद की परिभाषा
- ग. वेदों का महत्त्व
- घ. ऋग्वेद, यजुर्वेद सामवेद एवं अथर्ववेद का सामान्य परिचय

इकाई 2— वेदों की उत्पत्ति 05 अंक

- क. पौरुषेय अथवा अपौरुषेय
- ख. ऋषि एवं ऋषिकाएं

मौखिक परीक्षा

05 अंक



BUDDHIST STUDIES

MAX MARKS: 100

80 (THEORY) +20 (INTERNAL ASSESSMENT)

TIME: 3 HOURS

Unit – I Life of Gautama Buddha

08 Marks

- i. Birth
- ii. Renunciation
- iii. Enlightenment
- iv. Dhamachakrapravartana
- v. Mahaparinirvana

Unit – II Buddhist Councils

08 Marks

- i. First Buddhist Council
- ii. Second Buddhist Council
- iii. Third Buddhist Council

Unit – III Royal Patronage to Buddhism

08 Marks

- i. Ashoka
- ii. Menander
- iii. Kanishka
- iv. Lalitaditya

Unit – IV Introduction of Buddhism in J&K

08 Marks

- i. Introduction of Buddhism in Kashmir
- ii. Introduction of Buddhism in Jammu
- iii. Introduction of Buddhism in Ladakh

Unit – V Buddhist Sites of J&K

08 Marks

- i. Sites in Jammu Region: Ambaran (Akhnoor), Paddar (kishtwar)
- ii. Sites in Kashmir Valley: Parihaspur, Harwan, Pandrethan, Ushkur
- iii. Sites in Ladakh: Alchi, Thiksey, Hemis, Matho, Dakthog

Unit – VI Four Noble Truths

08 Marks

- i. Suffering
- ii. Cause of Suffering
- iii. Cessation of Suffering
- iv. Path Leading to the Cessation of Suffering



Unit – VII Eight Fold Path

08 Marks

- i. Right View
- ii. Right Determination
- iii. Right Speech
- iv. Right Action
- v. Right Livelihood
- vi. Right Effort
- vii. Right Awareness
- viii. Right Concentration

Unit – VIII Law of Dependent Origination

08 Marks

- i. Nature of Twelve Link
- ii. Affliction
- iii. Action
- iv. Resultant of Kamic Forces

Unit – IX Four Phenomena

08 Marks

- i. Anitya (Impermanence)
- ii. Duhkha (Suffering)
- iii. Anatma (No Soul)
- iv. Nirvana (Emancipation)

Unit – X Four State of Sublime Living

08 Marks

- i. Maitri (Friendliness)
- ii. Karuna (Compassion)
- iii. Mudita (Happiness)
- iv. Upeksha (Equanimity)



ARABIC

Time : 3 Hours

Max. Marks: 100

(80 theory + 20 internal assessment)

PART I ADVANCED READING SKILLS 8 MARKS

- Identification of nouns and verbs from the given passage extracted from the prescribed textbook or from an unseen passage with an internal choice.

PART II EFFECTIVE WRITING SKILLS 12 MARKS

- Identification of types of proper noun in Arabic. (4 Marks)
- Meaning of four Arabic words out of given eight into English or Urdu. (4 Marks)
- Four simple questions in Arabic to be answered in Arabic. (4 Marks)

PART III APPLIED GRAMMAR 20 MARKS

- Five questions based on applied grammar. (5 Marks)

PART IV ALQURAN AND ALHADITH 15 MARKS

- Translation of Quranic verses into English or Urdu with an internal choice.(5 Marks)
- Translation of five Ahadith out of given ten into English or Urdu. (5 Marks)
- Write a brief note on AlQuran in Arabic (5 Marks)

PART V POETRY SECTION 5 MARKS

- Explaining the verses of a poem with references to the context, one out of two given options to be explained in English / Urdu /Arabic . (1 Mark)

PART VI PROSE SECTION 20 MARKS

- Translation of one out of two given passages along with reference to the context from Arabic into English/ Urdu extracted from the chapter No 115 to 120 of the prescribed textbook (8 Marks)

- Translation of any one of the two given prose passages from the prescribed textbook excluding chapter No. 115 to 120. (6 Marks)

- Six multiple choice or objective type questions. (6 Marks)

Prescribed textbook of Arabic titled “Tasheelul Arabia” (part I) published by JKBOSE.

INTERNAL ASSESSMENT 20 MARKS

Apart from the prescribed textbook, the subject teacher can plan their own activities and create their own material for assessing the listening, reading, writing and speaking skills and students shall be evaluated throughout the academic session.

It may include

- Periodic pen paper tests, quizzes, group discussions.
- Listening and speaking activities.
- Participation in debates and seminars/conferences, etc.
- Project work on any given topic in Arabic language/literature/culture.
- Portfolio of students.

FUNCTIONAL ENGLISH

TIME: 3 HOURS

MAX MARKS: 100

80 (THEORY)+20 (INTERNAL ASSESSMENT)

Prescribed Textbooks

1. *Functional English Literature Reader* for Class-XI published by Goyal Brothers Prakashan, New Delhi
2. *Functional English Language Skills Book* for Class- XI published by Goyal Brothers Prakashan, New Delhi.

Q No	DESCRIPTION	Weightage
SECTION A: READING COMPREHENSION		20 marks
1	One unseen passage of 400-500 words in length followed by questions including MCQ's, true/false, yes/no, one line clarity questions, asking for title etc., to assess comprehension, vocabulary, interpretation and inference.	1x10= 10 marks
2	One seen prose passage from Literature Reader of 400-500 words in length to measure the comprehension of students at a deeper level. Students shall be assessed through a cloze test wherein, they will be asked to fill the blanks within the passage. Proper hints must be provided.	1x10= 10 marks
SECTION B: WRITING SKILLS		30 marks
3	One question on note making. (100-120 words)	5 marks
4	One question on Factual Description. (100-120 words)	5 marks
5	One out of two questions on Messages/E-mail. (50-80 words)	3 marks
6	One out of two questions on Notices/ Posters. (50-80 words)	3 marks
7	One question on Speech Writing/Article Writing. (100-120 words)	5 marks
8	One question on Recent Actions and Activities (80-100 words)	4 marks
9	One question on All in a day's work (passives)/How to Report (100-120 words)	5 marks
SECTION C :GRAMMAR		10 marks
10	One question on synonyms and antonyms	2 marks
11	One question on Word Class Conversion	2 marks
12	One question on Inflections	2 marks
13	One question on Transitivity	2 marks
14	One question on Homophones/Homonyms	2 marks
SECTION D: LITERATURE		20 marks
15	Five out of eight questions to be attempted based on prose to assess inference and critical thinking. (50-60 words)	5x3=15 Marks
16	One questions based on drama with internal choice based on character sketch	5 marks



SECTION D: LITERATURE		20 marks
15	Five out of eight questions to be attempted based on prose to assess inference and critical thinking. (50-60 words)	5x3=15 Marks
16	One questions based on drama with internal choice based on character sketch and critical appreciation. (100-150 words)	5 marks

INTERNAL ASSESSMENT (20 marks)

Guidelines for Internal Assessment

S. No	Skills	Activities
1.	Listening-I	<ul style="list-style-type: none"> • Story-telling (should invite answers from the students) • Conversation and conversation skills: greeting/politeness/expressions (<i>Refer to Language Skills book</i>)
2.	Speaking-I	<ul style="list-style-type: none"> • Introduction (should talk about various themes like academics, career, sport, hobbies etc.) Basic phonemic awareness exercises • Telephonic conversation (<i>Refer to Language Skills book</i>) Model Reading

Suggested Reading

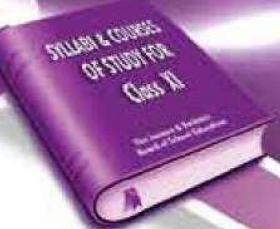
- A Practical Course of English Pronunciation by A. C. Gimson (Cambridge University Press).
- Introduction to English Phonetics and Phonology by Mohammad Aslam & Aadil Amin Kak (Cambridge University Press).
- A Course in Listening and Speaking-I by V. Sasikumar et al (Foundation Books Delhi).
- High School English Grammar and Composition (Wren & Martin).

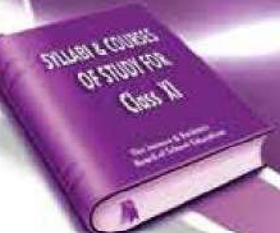


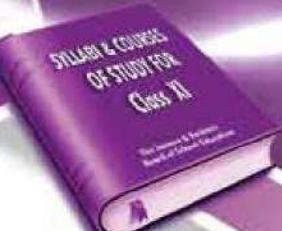
Question Paper Design

General English XI Marks -**80+20=100**

Section	Competencies	Total Marks
Reading Comprehension	Conceptual understanding, decoding, analyzing, inferring, interpreting, vocabulary, summarizing, etc.	20 Marks
Writing Skill	Reasoning, appropriacy of style and tone, using and tone, using appropriate format and fluency, inference, analysis, evaluation and creativity, etc.	30 Marks
Grammar		30 Marks
Literature	Comprehension, appreciation, inference, analysis, writing with clarity, etc.	30 Marks
TOTAL		80 Marks
Assessment of listening and speaking skills	Listening to a story, understanding the scheme of events, identifying tone and accent of the speaker, being able to reproduce a text in spoken form, engage in conversations, etc.	20 Marks
GRAND TOTAL		100 Marks







Biotechnology

Maximum Marks: 100

Theory: 70 Marks

Practical: 30

Unit I: Introduction to Biotechnology

Chapter 01: Biotechnology: an overview

04 marks

Biotechnology Definitions, Historical perspectives, Technology and Application of Biotechnology, Global market and Biotech products, Public perception of biotechnology, Biotechnology in India and Global trends.

Unit II: Cells and organisms

08 marks

Chapter 01: The basic unit of Life

Cell Structure and Components, Structure and function of Cell wall, Plasma membrane, Endoplasmic Reticulum, Golgi complex, Mitochondria, Chloroplast, Vacuole, Lysosome, Peroxisome, Ribosomes, Nucleus, Cytoskeleton.

Chapter 02: Cell Growth and Development

10 marks

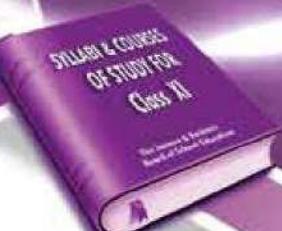
Cell Division, Mitosis, Meiosis, Cell Cycle, Cell Communication, Nutrition, Internal Transport, Homeostasis, Reproduction, Animal and Plant development, Immune Response in Animals, Programmed Cell Death, Defense Mechanisms in Plants.

Unit III: Biomolecules

Chapter 01:Biomolecules; Building Blocks

08 marks

Ionization of water, Concept of pH, Buffer, Carbohydrates, Classifications, Structure of Glucose, Fructose, Lactose, Sucrose, Amino acids, Classification, Zwitter ion, Isoelectric point, Fatty Acids Triglycerides, Sphingolipids, Cholesterol, Vitamins as precursors of Coenzymes, Nucleotides, Cyclic AMP.



Chapter 02: Macromolecules: Structure and Function **08 marks**
Polysaccharides, Cellulose, Starch, Glycogen and Peptidoglycan, Proteins, primary, secondary, tertiary and quaternary structure, Enzymes, Classification and Properties, Lipids and Biomembranes, Nucleic Acids, DNA and RNA.

Chapter 03: Biochemical transformation **08 marks**
Glycolysis, Fermentation, Citric acid cycle, Electron transport chain, Photosynthesis, Light reaction, Calvin cycle.

Unit IV: Genetics and Molecular Biology

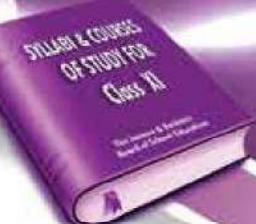
Chapter 01: Concept of Genetics **10 marks**
Historical Perspective, Mendel's Law of Dominance, Law of Segregation, Law of Independent Assortment, Linkage and Crossing over, Chromosome Theory of Inheritance, Multiple allelism, Sex linked Inheritance, Extra nuclear Inheritance.

Chapter 02: Genes and Genomes: Structure and Function **10 marks**
Discovery of DNA as Genetic Material, DNA Replication, Fine Structure of the Genes, Transcription Genetic Code, Translation. Regulation of Gene Expression, Mutations, Human Genetic Disorders, genome, Viral, Prokaryotic and Eukaryotic Genomes.

Unit V: Bioanalytical techniques **04 marks**
Chapter 1: Elementary Idea of Bioanalytical Techniques: Microscopy, Centrifugation, pH meter, Chromatography, Electrophoresis, Colorimetry.

Book Suggested

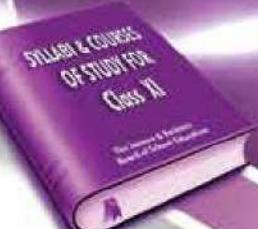
1. A textbook of Biotechnology, Published by NCERT New Delhi.



PRACTICALS

30 marks

1. Safety rules in the laboratory.
2. Emergency treatment for laboratory accidents.
3. Care and cleaning of glassware apparatus.
4. Operation of autoclave, incubator, water bath, pH meter, vacuum pump, centrifuges.
5. Sterilization techniques, moist heat, dry heat and filtration methods.
6. Preparation of bacterial growth medium.
7. Slide preparation of lactobacillus from curd.
8. Preparation of 0.2 M acetate and bicarbonate buffers of pH 4.7 and 9.2 respectively.
9. Cell counting.
10. Detection of carbohydrates by Molisch's test.
11. Estimation of whey protein by biuret method.
12. Temporary mount of mitosis from onion root tip.
13. Study of permanent slides of Staphylococcus, Streptococcus, Sarcina, E.coli, vibrio cholera, Streptomyces, Aspergillus, Penicillium, Spirulina, Nostoc.



ENVIRONMENTAL SCIENCE

Class 11th M. Marks: 100

Practical: 30

Theory:70

Unit 1:- Understanding Environment (7 marks)

- Concept of Environment and its types; physical, biological; and social environment.
- Scope and importance of Environmental Science.
- Components of environment.
 - a. Lithosphere
 - b. Hydrosphere
 - c. Atmosphere
 - d. Biosphere
- Origin of Earth
- Human and environment relationship.

Unit 2: Ecology (7 marks)

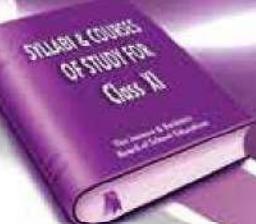
- Ecology (definition and types)
- Concept and structure of ecosystem)
- Trophic relationship (food chain, food web, ecological pyramids)
- Functions of ecosystem (energy flow in an ecosystem)
- Ecological Succession (types and stages)

Unit 3: Ecological Interactions and Adaptations (7 marks)

- Ecological interaction and its types
- Inter – specific interaction: positive interaction (mutualism, proto-cooperation, commensalism, symbiosis and scavenging), negative interaction (parasitism, Competition and ammensalism)
- Intra – specific interaction: cooperation and competitive
- Adaptations: concept and need
- Types of adaptations (with special reference to wind, light and temperature)

Unit 4: Population Ecology (7 marks)

- Concept of species, population and communities.
- Population Dynamics (population size and density, dispersion, natality, mortality, age structure)
- Population growth (exponential and logistic growth)
- Factors regulating population growth (competition, weather and climate, territory, predation, natural disasters and diseases)



- Human population growth (Malthusian theory and neo- Malthusian theory, Demographic Transition)

Unit 5: Energy Resources (7 marks)

- Concept of energy resources
- Non-renewable energy resources: coal, petroleum, natural gas
- Renewable energy resources (solar wind and hydropower)
- Nuclear energy (uses and limitations)
- Biofuels

Unit 6: Earth's Environment and Natural Disasters (7 marks)

- Atmosphere: structure and composition
- Hydrosphere: distribution, hydrological cycle
- Lithosphere: structure
- Biogeochemical cycles (Carbon, Nitrogen and Phosphorous)
- Natural disasters (earthquakes, floods and volcanoes)

Unit 7: Environmental education and Awareness (7 marks)

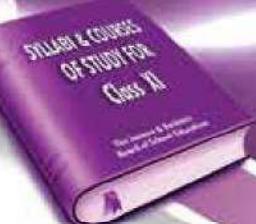
- Concept and need of environmental education
- Formal and informal means of environmental education
- Modes of environmental awareness
- Role of NGOs
- Environmental movements (Chipko movement, Narmada Bachao Andolan)

Unit 8: Environmental Health (7 marks)

- Concept of health and disease
- Water borne diseases (Cholera, Hepatitis, Typhoid)
- Air borne diseases (Influenza, Tuberculosis)
- Soil borne disease (Tetanus; Botulism)
- Occupational diseases (Silicosis, Asbestosis)

Unit 9: Natural Resources (7 marks)

- Forest resources (types and uses)
- Animal resources (fish and livestock)
- Water resources (fresh and marine)
- Mineral resources (type and uses)
- Medicinal plants (with special reference to J&K)



Unit 10: Managing Agriculture

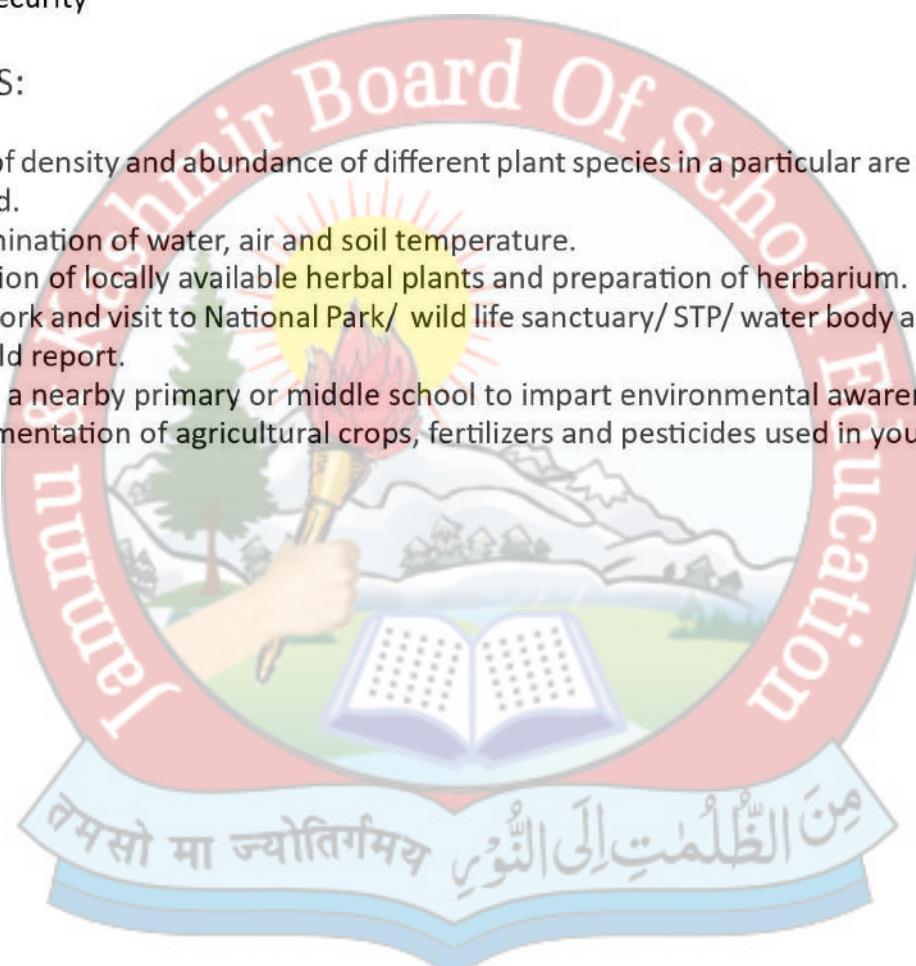
(7 marks)

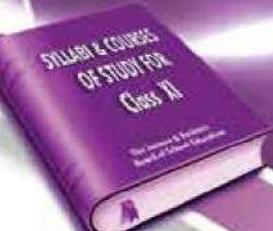
- Concept of traditional and modern agriculture
- Green revolution and white revolution
- Pesticides and fertilizers (types, advantage and disadvantages)
- Integrated pest control
- Food security

PRACTICALS:

(30 marks)

1. Study of density and abundance of different plant species in a particular area using quadrat method.
2. Determination of water, air and soil temperature.
3. Collection of locally available herbal plants and preparation of herbarium.
4. Field work and visit to National Park/ wild life sanctuary/ STP/ water body and preparation of a field report.
5. Visit to a nearby primary or middle school to impart environmental awareness.
6. Documentation of agricultural crops, fertilizers and pesticides used in your locality.





MICROBIOLOGY

OBJECTIVES

The broad objectives of teaching Microbiology at higher secondary level are:

- i. To help the learners know and understand basic facts and concepts of the subject at elementary stage.
- ii. To expose the students to different basic processes and basic techniques used in Microbiology.
- iii. To familiarize the learners to understand the relationship of the subject to health, nutrition, environment. Agriculture and industry etc.
- iv. To develop conceptual competence in the learners so as to cope up with professional courses in future career.
- v. Studying, perverting and controlling infectious disease.
- vi. To develop an interest in students to study Microbiology as a discipline.

COURSE STRUCTURE

Maximum Marks: 100

Time: 3 hrs

Theory: 70 marks (practical: 20+10 marks)

Unit I: General Microbiology

Chapter I: History and importance of microbiology, Koch's postulates, Difference between prokaryotes and eukaryotes. Introduction to microbial world: bacteria, virus, fungi and protozoa. Scope of microbiology (medical, agricultural veterinary, sanitary, environmental, industrial and food microbiology). 12 marks

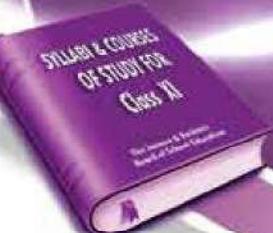
Chapter II: Introduction to microscopy: Simple, Compound, Fluorescent, Phase Contrast, dark Field, Electron Microscope.

Chapter III: Five kingdom and three domain classification of organisms: Bacteria, Eucarya and Archaea.

Unit II: Bacterial structure

12 marks

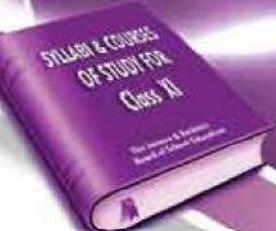
Chapter IV: Morphology of bacteria: Shape, size, and arrangement, Motility. Fine structure of bacteria cell wall, cell membrane, outer membrane flagella, pili, capsule, cytoplasmic inclusions, ribosomes and nuclear material. Structure of bacterial spore. Bacterial stains simple Grams (gram positive Gram negative) Ziehl- Neelson (Acidfast and non acidfast), capsule and spore stain.



Unit III:	Bacterial Physiology	11 marks
Chapter V:	Bacterial nutrition, Physical growth parameters (Temperature, pH, oxygen tension). Bacterial growth curve, Bacterial reproduction, Bacterial count: total and viable. Autotrophic, heterotrophic, thermophilic, mesophilic, psychrophilic organisms.	
Chapter VI:	Cultivation of bacteria. Colony characteristics, growth media liquid, solid, general differential selective enrichment transport and their preparation. Cultivation methods: aerobic and anaerobic, Isolation, identification and preservation of pure culture Lyophilization.	
Unit IV:	Virus	09 marks
Chapter VII:	Definition: virus, virion, viroids, prions and bacteriophage Historical, background of virus. General characteristics of viruses. Structure of virus: capsid, nucleocapsid, envelope. Viral symmetry: icosahedral (polio virus), helical (Tobacco Mosaic Virus) and complex (pox virus). Replication of viruses.	
Unit V:	Protozoa, Algae and Fungi	12 marks
Chapter VIII:	Protozoa, Definition, general characters classification structure and reproduction asexual and sexual	
Chapter IX:	Fungus: Definition, general characters classification structure and reproduction.	
Chapter X:	Algae: Definition general characters, classification and reproduction	
Unit VI:	Sterilization and Disinfection	14 marks
Chapter XI:	Definition: sterilization disinfection, antisepsis, pasteurization and tyndallization. Physical agents: heat (moist/dry) desiccation, radiation, filtration and centrifugation. Chemical agents: phenol and phenolic compounds, alcohol, halogens, detergents, aldehydes, Radial walker coefficient (phenol coefficient) Segregation and disposal of contaminated waste.	
Chapter XII:	Antimicrobial and chemotherapeutic agents: general properties and drug resistance. Antimicrobial agents: antibacterial, antiviral, antifungal, antiprotozoal, Bactericidal and bacteriostatic agents	

PRACTICALS & PROJECT = 30 MARKS

Note: Every student is required to do the following experiments during the Academic Session.



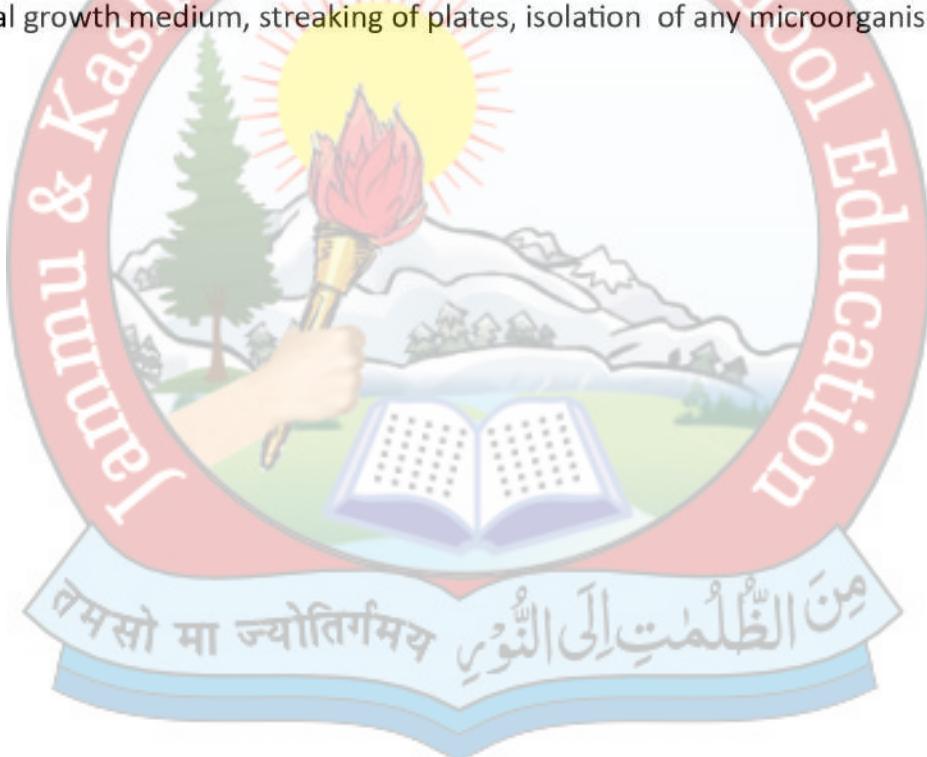
LIST OF EXPERIMENTS

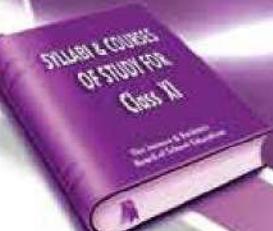
Marks :20

1. Standard laboratory safety practices.
2. Washing of glassware.
3. Microscope: Parts, description, care, handling and procedures.
4. Gram staining.
5. Demonstration of Gram positive, Gram negative bacteria in prepared slides.
6. Visit to govt. institutions (microbiology laboratories) for demonstration and working of autoclave, hot air oven, laminar flow, centrifuge, glassware,

Project work with ten page write up on any one like: Gram staining, preparation of any bacteriological growth medium, streaking of plates, isolation of any microorganism.

Marks :10





BIOCHEMISTRY

Maximum Marks: 100

Theory: 70 marks

Time: 3 hours

Practical: 30 marks

UNIT I: BIOPHYSICAL CHEMISTRY:

Chapter 01: Water, The molecule of life.

(10 marks)

Role of water in cellular organization. pH and pKa, Buffers, physiological buffers, Henderson and Hasselbalch equation. Hydrogen Bonding with reference to Carbohydrates, Lipids, Proteins and Nucleic acids. Hydrophilic and Hydrophobic Interactions. Vanderwalls interactions, Ionic interactions, Colloids and Colloidal Biochemical solutions.

Chapter 02: Overview of Biochemistry, Definition and Introduction Biomolecules (Macro and Micro biomolecules).

UNIT II: BIOMOLECULES, THE BUILDING BLOCKS OF LIFE.

Chapter 01: Carbohydrates and Amino Acids

(8 marks)

Classification, Isomerism, Epimerism, Anomerism, Stereo isomerism (D and L) and optical isomerism (dextro and laevo). Properties of carbohydrates (Redox reactions).

General structure of Amino acids. Classification on the basis of R group and charge. Essential and Non-Essential amino acids. Concept of peptide bond. Elementary idea of proteins.

Chapter 02: Lipids and Nucleic acids.

(7 marks)

Definition of Fatty acids. Classification of fatty acids (odd and even, saturated and unsaturated fatty acids). General Structure of a Fat. Introduction of Phospholipids.

Introduction to nucleotides and deoxy nucleotides, Structural organization of Purine and pyrimidine. Structure of B-DNA (Watson and crick model). Types of RNA mRNA, rRNA and tRNA. Function of Nucleic acids.

UNIT III: CELL BIOLOGY:

Chapter 01 Membrane Biology

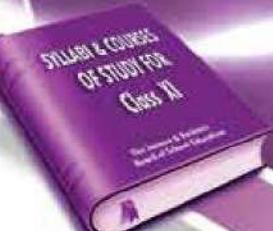
(7 marks)

Cell as the fundamental unit of life Prokaryotic and Eukaryotic cell. Organization of Plasma membrane, Fluid mosaic model of Plasma membrane, extrinsic, intrinsic and trans membrane proteins. Transport (Uniport, Symport and Antiport with reference to Active and Passive transport). Osmosis and diffusion.

Chapter 02: Cellular Organelles

(8 marks)

Nucleus and nucleoid. Origin of Endoplasmic Reticulum, Role of ER in secretory protein synthesis. Golgi complex and its role in post translational modifications, Structure of Mitochondria, Mitochondria



as Energy source of a cell, Structural organization of inner membrane, ETC. Chloroplast as Glucose machinery of a cell, Biochemical Reactions with reference to Stroma and Thylakoid membrane (light and Dark reaction), Vacuole, Lysosome and its role in cellular metabolism, Nucleolus and ribosome biogenesis. Svedbergs constant.

UNIT IV: ENZYMOLOGY:

Chapter 01: Introduction to a Biochemical reaction.

(6 marks)

Nature and classification of enzymes. Prosthetic group: Co-enzymes and co factors. Holoenzyme, Apoenzyme. Models of enzyme activity (Lock and key model and Induced fit model). Factors affecting enzyme activity (Substrate, pH and Temp.).

Chapter 02: Regulation:

(4 marks)

Role of Activators and Inhibitors. Competitive, Non Competitive and Uncompetitive Inhibition. Allosteric enzymes.

UNIT V: NUTRITION BIOLOGY:

Chapter 01: Mechanism of Digestion

(3 marks)

Mechanism of action of digestive enzymes on biomolecules (Carbohydrates, lipids, proteins and nucleic acids).

Chapter 02: Minerals

(4 marks)

Calorific value of Carbohydrates, lipids and proteins and RDA. Importance of minerals (Ca, Zn, P, Fe, Cu, I, K, Mg and Na). Dietary fibres.

Chapter 03: Vitamins:

(3 marks)

Nutritional sources, deficiency diseases and function of fat and water soluble vitamins.

UNIT VI: BIOANALYTICAL TECHNIQUES AND APPLICATION

Chapter 01. Techniques

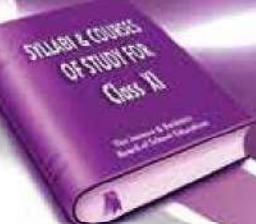
(5 marks)

Introduction to Estimations. Qualitative and Quantitative analysis. Ph metry, Colorimetry, Centrifugation, Electrophoresis of proteins and DNA and Paper Chromatography.

Chapter 02. Applications

(5 marks)

Applications of the biochemical techniques in Cell culture, protoplast fusion, hybrid crops, Gene extraction and Gene manipulation, Forensic sciences, DNA mapping and DNA fingerprinting.



PRACTICAL

Marks: 30

Laboratory work:

1. Safety precautions in the laboratory.
2. Preparation of Standard solutions (Molar, Normal and percentage).
3. Preparation of Buffers, Physiological buffers (bicarbonate buffer and Phosphate buffer. Henderson-Hasselbalch equation, pH, pKa).
4. Determination of pH of different solutions.
5. Care and cleansing of glassware apparatus.
6. Sterilization techniques, Autoclaving, Acetone and Alcohol sterilization, UV sterilization.
7. Color reaction of carbohydrates: Molish, Iodine, Benedict's and Barfoed's tests.
8. Color reactions of Proteins: Ninhydrin, Biuret and Xanthoproteic tests.

Institutional visits:

1. Learn to operate Autoclave, water bath, incubator and pH meter.
2. To operate Centrifuge for the separation purposes.

Scheme of Evaluation (Practical)

Internal Assessment:

Project work :

10 Marks

06 Marks

04 Marks

Viva:

20 Marks

12 marks

04 Marks

02 Marks

02 Marks.

External Assessment:

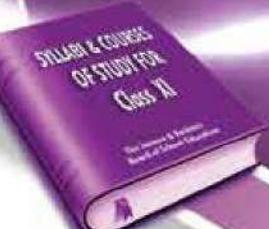
One Experiment

Practical record:

Viva:

Attendance:





FOOD TECHNOLOGY

Maximum Marks: 100

Theory: 70

Practical: 30

Unit-I. Introduction to Food Technology:

(10 Marks)

- Career in Food science and activities of food scientists.
- Scope, importance and constraints of food processing in India.
- Classification of foods on the basis of shelf life, pH and origin.
- Different types of food spoilage viz: Microbial, physical, biochemical.
- Common storage pests and their control.

Unit-II:Food Microbiology:

(10 marks)

- Historical developments in food microbiology and their significance.
- Microbial spoilage of milk, meat, fruits, vegetables, cereals and their products.
- Useful microbes in food processing and human health.
- Food borne diseases(Salmonellosis, Botulism, Listeriosis, Diarrhea, Dysentry and Eschrechia coli).

Unit-III:Principles of preservation:

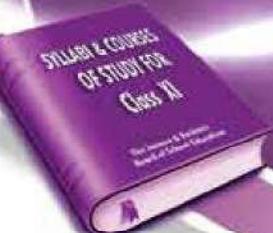
(15 marks)

- Preservation by sugar and salt.
- Preservation by low temperature(freezing, refrigeration)
- Preservation by high temperature (pasteurization, sterilization and aseptic processing).
- Preservation through moisture removal processes viz concentration, evaporation, drying and dehydration.
- Preservation by use of irradiation.
- Preservation by use of chemical preservatives.

Unit-IV.Food Chemistry and Nutrition:

(15 marks)

- Classification, sources, functional and nutritional importance of carbohydrates, proteins and fats;PCM
- Sources and functions of vitamins (fat soluble, water soluble) and minerals (calcium, iron, iodine)
- Concept of balanced diet.
- Interrelationship between health and Nutrition.



Unit-V. Packaging Technology: (10 marks)

- Functions of packaging
- Commonly used packaging materials and their properties: Glass, metal, plastic and cellulosic packages.
- Packaging requirements of fruits, vegetables, cereals, milk, meat and their processed products.
- Concept of laminates.
- Novel food packaging techniques: MAP, Active packaging.
- Environment friendly Packages: Biodegradable packaging, edible coatings.

Unit-VI. Food Quality and Safety (10 marks)

- Definition and importance of Quality.
- Traditional, modern and consumers concept of quality; Food quality attributes.
- Sampling- Purpose and methods of sampling.
- Quality Evaluation of foods(Subjective and objective methods)
- Food adulteration and common adulterants in milk, spices, honey, pulses and sugar.
- Common hazards associated with food: Physical, chemical and biological.
- Introduction to FSSA 2006
- Concept of HACCP.

Practicals: (30 Marks)

1. Microscopy- Types and working of microscope.
2. Cleaning and sterilization of glassware.
3. Gram staining.
4. Preparation of Nutrient media, techniques of inoculation.
5. Total microbial count of given food sample.
6. Preparation of standard solutions (Molar, Normal , ppm and percentage)
7. Proximate composition of different food products- Moisture, protein and fat.
8. Visit to health centers/ demonstration of various nutritional disorders.
9. Qualitative tests for determination of adulterants in: Milk, turmeric, sugar and Honey.
10. Preparation of brine and syrup.
11. Determination of adequacy of blanching.
12. Identification of different types of packaging materials.
13. Visit of students to different laboratories of Concerned Universities or nearby institution.

Scheme of Evaluation

Internal Assessment:

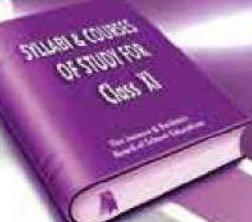
10 Marks

- | | |
|----------------|----------|
| Project work : | 06 Marks |
| Viva: | 04 Marks |

External Assessment:

20 Marks

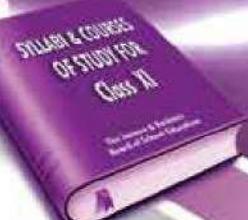
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| One Experiment | 12 marks |
| Practical record: | 04 Marks |
| Viva: | 02 Marks |
| Attendance: | 02 Marks. |



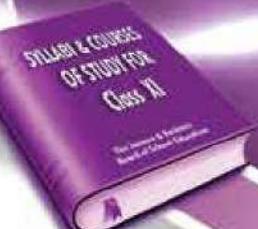
GEOLOGY

Theory	=	70 Marks
Practicals	=	30 Marks
Time	=	3 hours

- Unit-I : Introduction** 12 Marks
- (A) Definition of geology and its various branches viz; physical geology, mineralogy, petrology, palaeontology, stratigraphy, structural geology, geomorphology, economic geology, engineering geology and geohydrology.
 - (B) Physical Geology
 - (a) Weathering - Definition, types of weathering viz; mechanical, chemical and biological weathering.
 - (b) Soil formation through weathering
- Unit-II : Geohydrology** 14 Marks
- (A) (i) Definition of underground water, Juvenile water and connate water.
 - (ii) Concept of porosity and permeability.
 - (iii) Description of various zones of underground water, viz; zone of aeration, water table and zone of saturation.
 - (iv) Geological work of underground water.



- (B) (i) Definition of Aquifer
(ii) Types of Aquifers
- (C) Spring—Definition, Types of springs
- Unit-III : Geomorphology** 9 Marks
- (A) River
- (i) Definition of River, stages of river.
(ii) Geological features viz; V-shaped valley, waterfall, River terraces, Meanders, Oxbow lake and Delta
- (B) Glacier
- (i) Definition and types of Glaciers
(ii) Geological features viz; Cirque, U-Shaped Valley, moraines Roches-Montonees and Fiords.
- (C) Lake
- (i) Definition and types of lakes
(ii) Lake deposits



Unit IV: Mineralogy

14 Marks

(A) (I) Definition of mineral

(ii) Study of the following physical properties of mineral viz form, colour, cleavage, fracture, hardness, Specific gravity, lustre and streak.

(iii) Moh's scale of hardness

(iv) Physical properties of the following minerals:- Talc, Gypsum, Calcite, Fluorite, Apatite, Orthoclase, Quartz, Topaz, Corundum and Diamond

(B) Ores

(i) Definition of Ore

(ii) Physical properties of the following Ores:- Chalcopyrite, Bauxite, Hematite and Galena.

(C)

Methods of determining specific gravity of a mineral with Walker's Steelyard balance and Jolly's Spring balance.

Unit V: Petrology

9 Marks

(A) (i) Definition of a Rock

(ii) Three main types of Rocks.

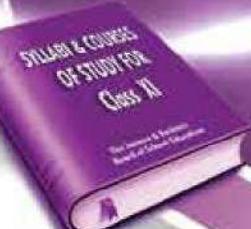
(iii) Basic knowledge of texture and structure of rock as seen Megascopically.

(B) Description of the following rock types :-

(i) Granite, Diorite, Gabbro and Basalt.

(ii) Shale, Limestone, Sandstones Conglomerate and Breccia.

(iii) Marble, Schist, Gneiss and Slate.



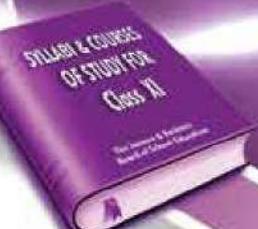
Unit VI: Palaeontology, Stratigraphy, Structural Geology and Engineering Geology **12 Marks**

- (A) Geological Time Scale.
- (B)
 - (i) Basic knowledge of Dip and Strike.
 - (ii) Construction and working of Brunton Compass and its uses.
 - (iii) Definition of fold and fault.
 - (iv) Description of various parts of fold and fault.
 - (v) Description with Sketches of the following structures:—Anticline, Syncline, Normal Fault and Reverse fault
- (C)
 - (i) Definition of a fossil.
 - (ii) Preservation and uses of fossil.
- (D) Definition: Dam, Tunnel and Bridges.

Books Suggested:-

1. A textbook of Geology by P.K. Mukherjee
2. A textbook of palaeontology by S.K. Chadha
3. Engineering Geology by K.M. Banger
4. Ruttleys Elements of Mineralogy by H.H. Read.



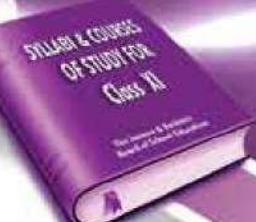


PRACTICALS

Marks: 30

Time: 3 hours

1. Megascopic description and identification of the following minerals:-
Talc, Gypsum, Calcite, Fluorite, Apatite, Orthoclase, Quartz, Topaz, Corrundum, Diamond, Chalcopyrite, Bauxite and Hematite.
2. Megascopic Description of the following rock types:-
(i) Igneous: Granite, Diorite, Gabbro and Basalt
(ii) Sedimentary: Shale, Sandstone, Conglomerate, Breccias and Limestone.
(iii) Metamorphic: Gneiss, Schist, Slate and Marble
3. Determination of specific gravity of a mineral specimen by Walker's steel yard balance/Jolly's Spring balance.
4. Sketches and description of the following structural features.
Anticline, Syncline, normal fault and Reverse Fault
5. Field work and Viva Voce
The fieldwork should include collection of mineral/rock specimens and study/identification of different geomorphological features.



ENTREPRENEURSHIP

Theory: 80 Marks
Practical: 20 Marks

Time: 3 hrs
MM: 100

UNIT-I

ENTREPRENEURSHIP

9 Marks

- I. Concept of entrepreneurship: Meaning, Definition and characteristics.
- II. Functions and need of entrepreneurship.
- III. Role of entrepreneurship in Economic development.
- IV. Barriers to entrepreneurship: Economic and technological.

UNIT-II

ENTREPRENEUR

9 Marks

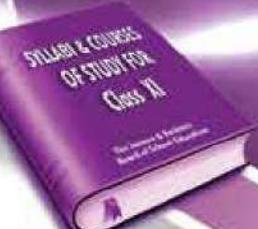
- I. Meaning, Definition and characteristics.
- II. Types of entrepreneur.
- III. Role & problems of women entrepreneur.
- IV. Role of entrepreneur in generating national wealth and creation of employment.

UNIT-III

ENTREPRENEURIAL VALUES & MOTIVATION

7 Marks

- I. Entrepreneurship motivation-Meaning & Concept.
- II. Six C's for entrepreneurial motivation: Change, Challenge, Creativity, Curiosity, Control & Cash.
- III. Help & support to entrepreneur by state & central bodies.



UNIT-IV

8 Marks

ENTREPRENEURIAL SKILL DEVELOPMENT PROGRAMME.

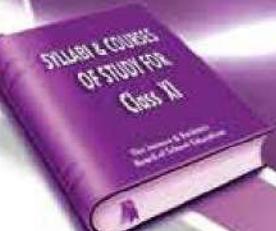
- I. Entrepreneur Skill-Meaning & Concept.
- II. Importance of Skill development.
- III. Techniques of skill development.
- IV. Qualities of a successful entrepreneur.

UNIT-V

7 Marks

INTRODUCTION TO MARKET DYNAMICS

- I. Meaning of market dynamics.
- II. Causes of market dynamics.
- III. Competitive analysis of market.



**Unit VI
SMALL ENTERPRISES**

8 Marks

- I. Meaning, Definition and characteristics of small enterprise.
- II. Objectives of micro enterprises.
- III. Role of Micro enterprises in economic development.

**Unit VII
PROJECT SELECTION & FORMULATION**

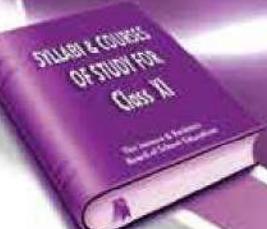
9 Marks

- I. Meaning of project.
- II. Project identification & steps in process of project selection.
- III. Meaning & significance of project report.

**Unit VIII
PROJECT APPRAISAL**

7 Marks

- I. Meaning of Project appraisal
- II. Methods of Project appraisal:
(a) Economic (b) Financial (c) Technical



Unit IX: 9 Marks
FINANCING OF ENTERPRISE

- I. Meaning & need of financial planning.
- II. Sources of Finance: Long term & Short term.
- III. Capital Structure: Meaning and Factors determining capital structure.

Unit X: 7 Marks
OWNERSHIP STRUCTURE

- I. Proprietorship: Meaning, Features & Importance.
- II. Partnership: Meaning, Features & Importance.
- III. Company: Meaning, Features & Importance.

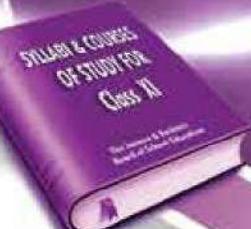
Introduction:

The Main objective of the course in Entrepreneurship is to generate in the students initiative, self reliance and enthusiasm so as to empower them to become entrepreneurs both in spirit and performance.

A number of skills such as observation, evaluation, communication, resource mobilization and management, risk assessment ,team building etc. are also to be developed in the students. Leadership qualities, sensitivity to business ethics and adherance to a positive value system are the core issues that the course highlights while presenting different concepts related to entrepreneurship.

Such a course should necessarily have a strong experiential component in the form of practical work. The objectives of the practical work are:

1. To introduce the students to the world of business by developing in them the core skills and competencies required for an entrepreneur.



2. To develop in the students qualities such as leadership, self-confidence, initiative, facing uncertainties, commitment, creativity, people and team building, integrity and reliability.
3. To enable the students to acquire the skills and knowledge needed for conducting surveys, collecting, recording and interpreting data and preparing simple estimates of demand for products and services.
4. To guide the students to prepare a Project Report.
5. To equip the students with knowledge and skills needed to plan and manage an enterprise through case studies conducted and recorded by the students in different fields such as resource assessment, market dynamics, finance management, cost determination, calculation of profit and loss etc.
6. To instill in the students important values and entrepreneurial discipline.

FORMAT OF PROJECT

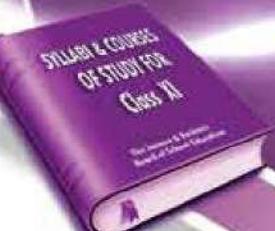
Total marks: 20 marks Internal: 5 marks external: 15marks

- | | |
|---------------------------------|----------|
| 1. Project Report/Survey Report | 09 marks |
| 2. Viva-Voce on PW/SR | 03 marks |
| 3. Case Study | 03 marks |

1. Project Report/Market Survey Report

- a) Project Report:

Preparation of a Project Report for an enterprise involving products/services. Students may be provided adequate guidance to choose a project based on their interests and availability of information and authentic inputs in the locality. The specimen proforma of project report given in the textbook may



be used for preparing the report. However, mechanical preparation of the report by filling in the information in the proforma should be discouraged.

Further, as the students will be required to appear for a Viva-voce on the basis of their projects, sufficient care should be taken by the students to prepare the report after studying the various aspects involved thoroughly. In a nutshell, the project report should lead to viable enterprise.

b) Market Survey Report

Market research is the process and technique of finding out who your potential customers are and what they want. The survey may be on products and services already available in the market or students may also conduct surveys for new products and services. The report of the survey should be organised under the following broad headings:

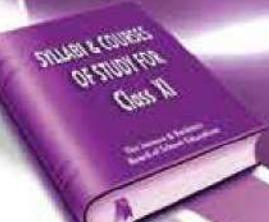
1. Objects.
2. Methods and tools (interviews, questionnaires etc.) to be used to collect information.
3. Records of data and information.
4. Analysis of data and information.
5. Interpretation and conclusion.

For example, a survey may be conducted to find out the choice of households in toiletry soap, tooth paste etc. The data may be analysed to establish a pattern that may be useful to an entrepreneur.

Guidelines for assessment of Project Report/ Survey Report

For purpose of assessment the same pattern shall be adopted for Term II also.

1. Presentation: Format, Clarity, Use of graphs, tables and other visuals, organisation, methodical recording of data and information and general neatness of execution.
2. Originality and Creativity



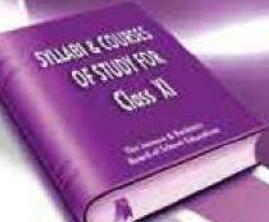
3. Authenticity of information and correctness of calculations and general feasibility of the project/ sustainability of conclusion drawn in the survey.
4. Viva Voce on the Project/Market Survey Report

The questions should establish that the report is the original work of the student and that the student has a reasonably clear understanding of the work carried out by him/her. Entrepreneurial qualities such as leadership, self-belief, creativity, originality, initiative etc. may also be assessed by asking a variety of questions related to the report.

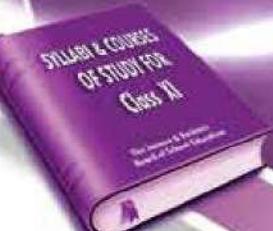
2. Viva-voce
3. Case Study

A case study is a focused research on an organisation, enterprise, practice, behaviour or person undertaken to highlight an aspect that the study attempts to examine. For instance, a case study may be conducted on the pollution control methods being employed by an industry. Or a successful industrialist may be chosen as a subject of a case study to analyze and understand the strategies that the industrialist adopted to achieve success. Ideally, a case study should be conducted on subjects with the objectives of bringing to the fore beliefs, practices, strategies, values etc. that have made them what they are. Such studies help us to understand the way in which great minds think and operate. We may also conduct case studies on failures; why a company collapsed, how a service lost its market etc. From both the types of case study, we learn lessons; how to do something or how not to do something. They also provide valuable insight into the processes involved in an enterprise. A few topics are suggested for carrying out case studies:

- i) Drawing a profile of a successful entrepreneur.
- ii) Studying a public sector undertaking and highlighting its success/failure, by analyzing the factors responsible.
- iii) Studying a small scale unit in the locality to bring out the procedures and processes adopted by the unit to become a feasible business venture.



- iv) A study of competition in business by choosing two or more rivals in the market and analyzing their strengths and weaknesses.
- v) Take the school itself for a case study and analyze any two aspects of the school plant for chalking out a plan of action: infrastructure, academics, co-curricular activities etc.
- vi) A case study on a thriving fast food shop/restaurant in your locality. What makes it so popular?
- vii) A case study on the ways in which a business unit has mobilised its financial resources.
- viii) A case study on the enterprise management techniques adopted by a business house.
- ix) A case study on the marketing strategies of a successful consumer durable company.
- x) A case study on the financial management of a Public Limited Company.
- xii) A case study on any Specialized Institution that supports and guides the establishment of a small scale unit.
- xiii) Studying the balance sheets of two big private companies to assess their trade and credit worthiness.
- xiv) Carrying out a case study on an established industrial house/company to find out the value system of the company and how it fulfils its social commitment/obligations.
- xv) Carrying out a case study on an established industry to ascertain the processes followed to reduce/prevent pollution.
- xvi) Study on environment friendly companies and their contribution to preservation.



Assessment of Case Studies

- i) Presentation: Format, accuracy, clarity, authenticity and general neatness
- ii) Analysis and Conclusions

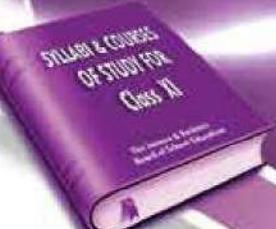
4. Problem Solving

In this session, the students will be required to solve a problem in the form of a written test. The examiner may choose any problem related to the units in class XI Text Book and set it for the class. The problem may be in the following areas:

- a. How to scan the environment to establish the feasibility of a project.
- b. Given certain figures showing the consumption pattern of a product, drawing conclusions that have a bearing on similar products.
- c. Carrying out market assessment for a given product/service to ascertain the feasibility factor.
- d. Assessment of Working Capital.
- e. Calculation of total cost of production.
- f. Calculation of break-even point.
- g. Determining location of a manufacturing unit.
- h. Problems in inventory control (calculation of the Economic Order Quantity and carrying out ABC analysis).
- i. Applying Pricing methods to determine the price of a product or service.
- j. Applying promotion mix to plan a sales campaign for a product or service.
- k. Working out a simple budget for a given task or job.

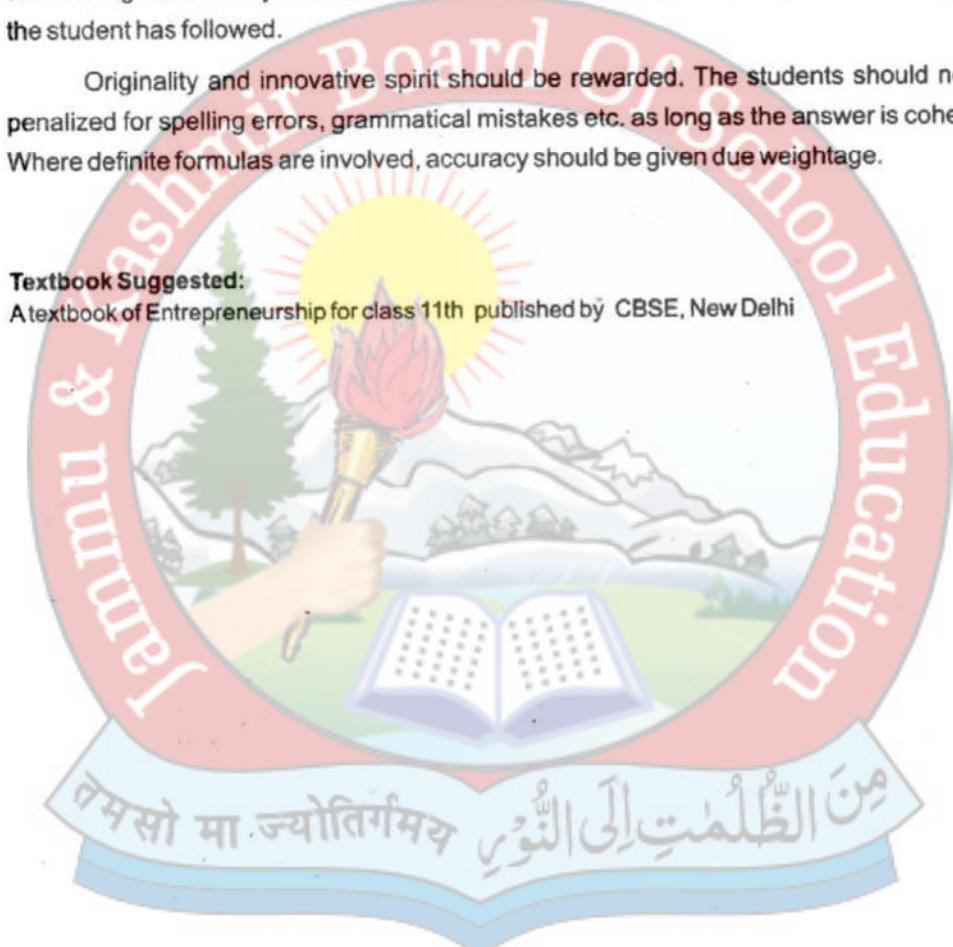
Assessment of Answers

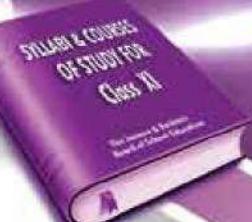
The examiner may prepare five problems which are solved by him/her before they are presented to the students. The student may choose anyone of the problems and solve it, showing the different steps/different reasons involved in the solution. If the problem does



not involve actual calculations, it may not have anyone correct answer. So weightage should be given not only to the final answer but to the entire process of problem solving that the student has followed.

Originality and innovative spirit should be rewarded. The students should not be penalized for spelling errors, grammatical mistakes etc. as long as the answer is coherent. Where definite formulas are involved, accuracy should be given due weightage.





TYPE WRITING & SHORTHAND

M. Marks: 100

Practical

Internal: 50 Marks

External: 50 Marks

Time: 3 hrs

25 Marks

A. Typewriting /On Machine/Computer Key Board.

There shall be one practical paper of 25 Marks. The paper shall contain the following exercises.

- | | | |
|----------------------------|--|---------|
| i. | Passage of 350-400 words (prose) | 7 Marks |
| ii. | A business letter | 6 Marks |
| iii. | A tabular statement | 7 Marks |
| iv. | Viva- voce. | 5 Marks |
| In viva- voce knowledge of | | |
| (a) | Key Board of Typing machine/Computer | |
| (b) | Function of different parts of machine (typewriter/Computer) | |
| (c) | Type setting and | |
| (d) | Maintenance of typewriter shall be tested | |

The length of the above material will be in accordance with the time allowed. Accuracy and arrangement shall be given paramount importance. The speed expected of the examinees shall be 25 words/minute. Actual time taken by the examinees in typing out the passage- shall be noted on the answer sheet.

B. Shorthand

25 Marks

There shall be one practical paper of 25 marks, the candidate shall be required to take down dictation in shorthand at speed of 50 words/ minute. The material for shorthand may be a passage of 600-800 words.



After taking down dictation students shall be required to transcribe the same in their own handwriting in longhand.

The outline of the shorthand shall have to be attached by the candidate with the answer sheet. Distribution of marks shall be as under:

- | | |
|--------------------------------|----------|
| (a) Outline | 6 Marks |
| (b) Transcription in Long hand | 14 Marks |
| (c) Viva-voce | 5 Marks |

In viva-voce knowledge of consonants and vowels, Grammatical logues, Contractions, abbreviations, suffixes and prefixes, etc shall be tested.

C.. Typewriting /On Machine/Computer Key Board.

Time: 3 hrs

25 Marks

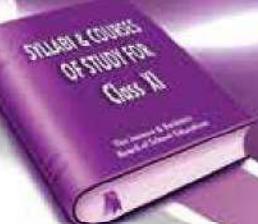
There shall be one practical paper of 25 marks. The paper shall contain the following exercise:

- | | |
|------------------------------|---------|
| (a) Passage of 350-400 words | 7 Marks |
| (b) A business letter | 7 Marks |
| (c) A tabular statement | 6 Marks |
| (d) Vice-voce | 5 Marks |

Shorthand

25 Marks

There shall be one practical paper of 25 marks. The candidate shall be required to take down dictation in shorthand at speed 50 words/minute. The material for shorthand may be a passage of 600-800 words.



After taking down dictation students shall be required to transcribe the same in their own hand writing in long hand.

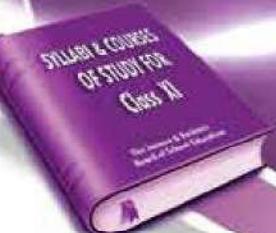
The outline of the short hand shall have to be attached by the candidate with the answer sheet Distribution of marks of different exercise shall be as under:

- | | |
|--------------------------------|----------|
| (a) Outline | 6 Marks |
| (b) Transcription in long hand | 14 Marks |
| (c) Viva-voce | 5 Marks |

Books Suggested:

Shorthand by pitman.





BUSINESS MATHEMATICS

MAX MARKS: 100

80 (THEORY) +20 (INTERNAL ASSESSMENT)

TIME: 3 HOURS

Unit 1st: Sets, Relations and Functions

10 Marks

Sets and their representation, various types of sets ,compliment of a set . Algebra of sets (Union, intersection and difference of sets). Demorgan's laws, Cartesian product of sets .

Relations: Various types of relations, Equivalence relation simple examples

Definition of a function and its various types (Into, onto, one-one, many-one, polynomial function, rational, modulus, constant , signum, greatest integer function, composite function) :

Unit 2nd: Sequences and Series

10 Marks

Geometric progression, general term sum to n terms, and sum to infinity of a geometric series . Geometric and arithmetic means ,Evaluation of Σn , Σn^2 , Σn^3

Unit 3rd: Trigonometry

10 Marks

Trigonometric ratios of allied angles (without proof). sum, difference formulae and their applications . solution of trigonometric equations .

Unit 4th: Permutations and combinations

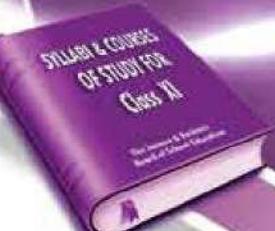
10 Marks

Factorial notation, fundamental principle of counting. Meaning of $P(n,r)$ and $C(n,r)$ and their relations with simple applications.

Unit 5th: Binomial theorem

08 Marks

Binomial theorem for any index. General term, middle term/s of a Binomial Expansion. Applications of binomial expansion.



Unit 6th: Statistics

13 Marks

Measures of dispersion, Mean Deviation from mean and median.

Standard deviation and variance of a grouped and ungrouped data.

Quartile deviation.

Unit 7th: Probability

11 Marks

Random experiment and sample space (set representation). Events and their occurrence. various types of events. Mutually exclusive and Exhaustive events . Axiomatic probability with applications.

Unit 8th: Linear Inequations

08 Marks

Algebraic solution of an inequation in one variable and the representation on a number line. Graphical solution of linear inequations in two variables.

Books Suggested:

1. A Textbook of Mathematics for Class XI published by NCERT, New Delhi

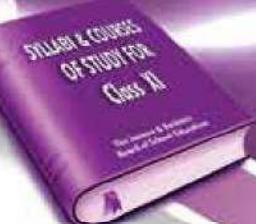
Scheme of Assessment (Theory)

Question paper contains four sections namely

1. **Section -A** contains 10 (Objective Type Question/Multiple Choice Questions) of 1 mark each. $1 \times 10 = 10$ marks
2. **Section- B** contains 10 Very Short Answer Type Questions of 2 marks each. $2 \times 10 = 20$ marks
3. **Section – C** contains 8 Short Answer type questions of 4 marks each. $4 \times 8 = 32$ marks
4. **Section - D** contains 3 Long Answer type questions of 6 marks each. (With Internal Choice) $6 \times 3 = 18$ marks

Note: The paper setter shall incorporate Higher Order Thinking Skills (HOTS) questions apart from knowledge, memory and application based questions.

INTERNAL ASSESSMENT	20 MARKS
Periodic Tests (Best 2 out of 3 tests conducted)	10 Marks
Mathematics Activities	10 Marks



TRAVEL TOURISM AND HOTEL MANAGEMENT

(Basic)

(NON-VOCATIONAL)

Maximum Marks: 100

Time: 3 hours

Unit I

10 Marks

Meaning, History and Importance of Travel and Tourism, Meaning of Tourist, Traveller, Transient & Excursionist, Types and Forms of Tourism, Concept of Mass Tourism/Eco-tourism and Sustainable tourism.

Unit II

10 Marks

Meaning, Features and Elements of Tourism Product., Difference between Tourism and Consumer Product. Tourism Products of J&K - Fairs & Festivals (Kheer Bhawani, Char-e- Sharief, Sindhu Darshan , Jhari mela, Eid in J&K, Navaratra in Jammu, Losar in Ladakh region).

Unit III

10 Marks

Tourism destinations:- Srinagar- Pahalgam & Gulmarg, Jammu-Patnitop & Mansar, Ladakh- Leh & Zanskar, Shrines: Hazartbal, Hemis, Amarnath and Vaishno Devi.

Unit IV

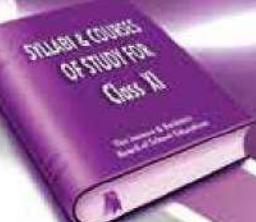
10 Marks

Flora and Fauna of J&K - Parks/Wildlife Sanctuaries, Physiographic Divisions and Climate, Handicrafts of J&K, Craft Mela-Jammu and Kashmir Haat, Cuisine-Wazwan.

Unit V

10 Marks

Role of Ministry of Tourism (Govt. of India), ITDC, J K TDC, Hill Development Council of Ladakh in promoting Tourism .



HOTEL MANAGEMENT (NON-VOCATIONAL)

Unit VI:

10 Marks

Meaning, Concept, Origin and Development of Hospitality Industry, Current Development and future scope. Importance of Customer Care in Hospitality

Unit VII:

10 Marks

Accommodation: Meaning & Scope, Types of Accommodation. Types of Hotels on the basis of their Size, Location, Comfort, Price and Ownership, Difference between Hotels, Motels and Resorts.

Unit VIII:

10 Marks

The important Functional Departments of the Hotel, their functions and Organizational Structure.

Unit IX:

10 Marks

Registration and Gradation of Hotels, Understanding Hotel functioning and Preparing report by visiting Star category Hotels- like Grand Palace, Hotel Broadway, Hotel Asia, Hotel K.C. Residency etc.

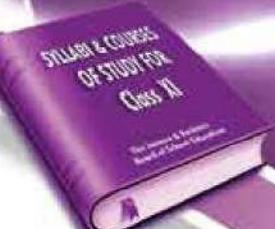
Unit X:

10 Marks

Meaning and Definition of Hospitality Distribution Channels, Functions and Levels of Distribution Channels, Basics of Major Hospitality Distribution Channels- Travel Agents, Tour operators, Consortia and Reservation System.

References:

1. Travel, Tourism & Hotel Management - S. Chand and Co. Ltd. New Delhi in collaboration with J&K Bose



PHYSICAL EDUCATION

Max. Marks: 100

Time : 3 Hrs

THEORY = 70, Practical = 30

UNIT-I

1. CONCEPT OF PHYSICAL EDUCATION

7 Marks

- 1.1) Meaning and definition of Physical Education.
- 1.2) Aims and objectives of Physical Education.
- 1.3) Need and importance of Physical Education.

UNIT-II

2. PHYSIOLOGICAL ASPECTS OF PHYSICAL EDUCATION

7 Marks

Effects of exercise on:

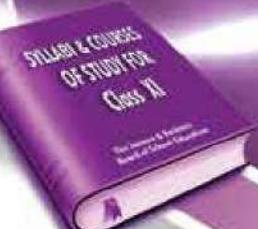
- a. Muscular system.
- b. Circulatory system.
- c. Respiratory system.
- d. Digestive system.

Unit-III

3. PSYCHOLOGICAL ASPECTS OF PHYSICAL EDUCATION

7 Marks

- 3.1) Definition of psychology and sports psychology.
- 3.2) Achievement and motivation in sports.



Unit IV

4. CAREER ASPECT IN PHYSICAL EDUCATION

7 Marks

- 1.1) Career options in physical education.
- 1.2) Avenues for career preparations.

UNIT V

5. HEALTH AND FAMILY EDUCATION

7 Marks

- 5.1) Concept and importance of health Education.
- 5.2) Effect of alcohol, tobacco and drugs and & abuse on individual, family, Community and sports person.

UNIT VI

6. CONCEPT OF MAJOR GAMES/SPORTS:

7 Marks

KHO-KHO, BADMINTON, KABADDI, HANDBALL, ARCHERY, HOCKEY.

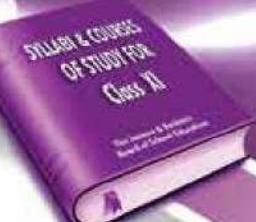
- 1.1) History of games (Above Games)
- 1.2) Rules, measurement of the field. (Above Games)
- 1.3) Fundamental skills and Sports Terminology.

UNIT VII

7. NATIONAL GAMES

7 Marks

- 1.1) National events.
- 1.2) National awards.



UNIT-VIII

OLYMPIC GAMES

7 Marks

- 2.1) History of Olympic Games.
- 2.2) Olympic Village.
- 2.3) Olympic Rings and Torch

UNIT- IX

9. DIET AND ITS IMPORTANCE IN PHYSICAL DEVELOPMENT

7 Marks

- 1.1) Diet and physical fitness.
- 1.2) Obesity and its causes.
- 1.3) Balanced diet.

UNIT-X

10. COMMON SPORTS INJURIES & REHABILITATION

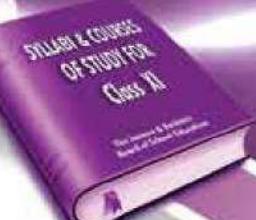
7 Marks

- 1.1) Muscle pull, sprain and strain.
- 1.2) Dislocation, Fracture.

Practical

Marks: 30

- | | |
|---|---------|
| 1. Camping and nature study | 6 Marks |
| 2. Track & field (Three events) | 6 Marks |
| 3. Project work. | 3 Marks |
| 4. Physical fitness test | 6 Marks |
| 5. Skill-test of game/ sports
(Any two games/sports) | 6 Marks |
| 6. Viva-voce | 3 Marks |



HOME SCIENCE

(FULL STREAM)

FAMILY HEALTH CARE & PREVENTION

Max. Marks: 100

Marks : 70 (Theory)

Practicals: 30 Marks

Time: 3 hours

Unit I : Good Health

12 Marks

- Definition of health - Dimensions of good health.
- External characteristics of good health.
- Height-weight norms for different age groups.
- Common health problems in India.
- Factors affecting health (Nutrition, Rest, Sleep, exercise, fatigue, posture, habits, substance abuse, clothes and footwear).
- Concept of Mental health.

Unit II : Diseases

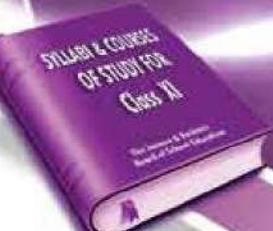
12 Marks

- Water/Air borne disease and other common diseases.
- Causes, mode of spread, symptoms, prevention and control of the following: Typhoid, Cholera, bird flu, measles, mumps, plague, chicken pox, polio.

Unit III : Health Care Services.

11 Marks

- Role of Health Care Services at gross root level, state level and at the central level. ANP, ICDS, NNP, NRHM
- Primary Health Care Services and characteristics.



National Health policy - Aim/Objectives.

Practicals

15 Marks

1. Look for sign of good/poor health within your family.
2. Checking their own height and weight to determine whether they conform to norms for Indian Conditions.
3. Talk by a general physician on the signs of good and poor health.
4. Interaction with a PHE expert person and visit for a water filtration plant on source of water purification.
5. Visit to Primary Health Centre (PHC) in your own locality and maintain a record of the facilities being provided.

Family Health Care and Prevention

Unit IV: Hygiene and Environment

12 Marks

- Personal Hygiene and its importance: - Personal cleanliness.
- Waste disposal methods - rural and urban.
- Using safe drinking water. Importance of potable water for good health, qualities of safe drinking water, household methods of making water safe for drinking.
- Human Environment interaction: Environmental issues and problems.

Unit V: First Aid and Home Nursing

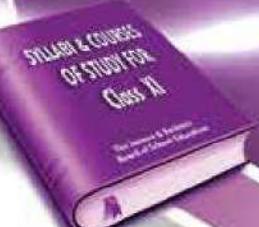
12 Marks

- How to handle simple emergencies in the home) Cuts, burns, scalds, electric shocks, choking of food, sprains, Insect and snake bite), food allergies, medicine.
- First Aid kit: its contents.
- The sick room: - Choice and preparation of sick room. How to make a bed.
- How to disinfect a room.
- The role of traditional and local system of medicine.

Unit VI: Population Education

11 Marks

- Population Explosion: - Definition, meaning, causes, effect of over population and its control.



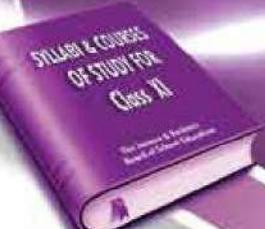
- Population Education and its Aim.
- Importance of girl child, Govt. incentives to improve status of girl child (with ref. to state)

Practical

15 Marks

- 1) Conduct a symposium on method of maintaining and preserving the environment.
- 2) Maintain the cleanliness and hygiene of the Home Science-laboratory.
- 3) Taking and recording body temperature, pulse rate, respiration rate.
- 4) Preparation of First Aid Kit.
- 5) Make poster and charts, emphasizing the need for personal and environmental hygiene.
- 6) Prepare a list of Ten (10) traditional Home remedies being practiced at your Home.





FOOD SCIENCE

Max. Marks: 100

Marks :70

Practicals:30

Time: 3 hours

Unit I : Food and Nutrition

12 Marks

- Definition of food, food nutrients, nutrition optimum nutrition and Malnutrition.
- Functions of food, specific functions of Nutrients, sources of Nutrients.
- Malnutrition - Indications of Malnutrition, Types of Malnutrition laying stress on P.E.M (Protein Energy Malnutrition)

Unit II : Utilization of Food in the Body

12 Marks

- The digestive system & its functions.
- Digestion, absorption, transport and utilization of food in the body.
- Metabolism of Protein, Carbohydrates and Fats.
- Importance of water and fibre in our diet.

Unit III : Food Preservation

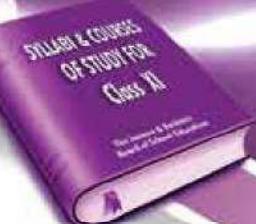
11 Marks

- Importance of food preservation.
- Causes of food spoilage.
- Principles of food preservation.
- Methods of food preservation. (House hold and Commercial).

Practicals :

15 Marks

- Draw and label the different parts of the digestive system.
- Observation of Children in a pediatric ward of a local hospital to note sign and symptoms of different conditions of malnutrition.
- Preparation of Fruit squashes, Jams, Murrabas, Pickles, Sun drying of fruit and vegetables.



Unit IV: Planning a Balanced Diet

14 Marks

- Definition of Kilocalorie, Calorie.
- Nutrition of infants, Toddlers, children, Adolescence and Adults.
- Nutrition for special condition: - pregnancy/lactation, invalids and convalescents.
- RDA (Recommended dietary allowances) for all the above mention categories.
- Meal planning: - Importance and factors affecting meal planning.

Unit V: Food Selections & Preparation

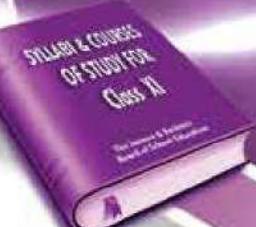
14 Marks

- Selection and storage of Perishable, semi-perishable and non-perishable foods.
- Standards, weights and measures for foods.
- Reason for cooking food, methods of cooking food.
- Moist heat, dry heat and frying.
- Action of heat on various nutrients and changes in nutritional values, color.
- Methods of enhancing nutritional value - germination, fermentation, fortification and proper food combination.

Unit VI: FOOD SANITATION

7 Marks

- Definition and meaning of Food hygiene.
- Factors affecting safety of food at home.
- Principles of food hygiene.
- Diseases transmitted through food, their signs, symptoms and prevention.
- Food Adulteration: - Definition and measuring.
- Common adulterants present in Cereals, pulses, milk and milk products, fats and oil,



sugar jaggery, honey, spices and Condiments.

- Ill effects of some of the adulterants present in the foods, kesari dal, metanil yellow, argenone seeds.
- Safety against Food Adulteration: - Prevention of food Adulteration Act.
- Standard marks on Foods. FPO, ISI, AGMARK.
- Food Laws: - Their Importance and Aim.

Practicals

15 Marks

- Practical experience in planning a days' meal for :-
 - Vegetarian
 - Non-Vegetarian
 - Different age groups.
 - Pregnancy and Lactation.
- Survey of local and regional dietary pattern.
- Market survey of cost and availability of food in general use. Weighing and measuring of foods.
- Practical experience in preparing meals for the family.
- Detection of Adulterants present in foods:- Cereals, pulses, Milk, Condiments.





MANAGEMENT OF RESOURCES

Theory: Marks : 70

Practicals:30 Marks

Time: 3 Hours

Unit I: Family Resources

12 Marks

- Meaning and definition of resources.
- Classification of Resources - Human and Material Resources.
- Characteristics of Resources.
- Factors affecting the use of resources.
- The Management Process - Planning, Organizing, Implementing, Controlling and Evaluation.
- Qualities of a Good Home maker.

Unit II : Housing

14 Marks

- Housing - Factors affecting minimum need for satisfactory living.
- Factors affecting selection of house(Site, Soil, Physical Features, Sanitary Conditions, Practical Convenience)
- Selection of furniture, furnishing and household equipments.
- Principles in planning a house.
- Requirement & Arrangement of furniture in different rooms of the house.
- Interior Decoration - Principles of Art, Importance of color in the home, Use of plants and flowers as decoration.

Unit III : Disinfection and Pest Control

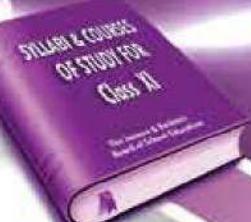
9 Marks

- Common household pest and their control measures.
- Different types of pest control : Preventive and curative.
- Disinfectants: Classification and use.
- Cleanliness and sanitation - Cleaning of the house.
- Cleaning and polishing of Metals (Brass, Copper, Silver, steel and Aluminum).
- Cleaning of wooden surfaces, Glass, Wicker, Tiles and Marble surfaces.

Practicals

15 Marks

- Make a diagrammatic representation showing arrangement of furniture in different rooms.
a) Drawing room. b) Bed room c) Multi-Purpose room.
- Making Rangoli patterns for different occasions.
- Making different types of flower arrangements.
- Cleaning of metals.
- Cleaning of window panes.



Unit I : Resource Management.

11 Marks

- Meaning and types of values, goals and standards.
- The family cycle: Decision making in family living.
- Planning for the use of resources on short term & long term basis.
- Need to manage the resources and methods of Conservation of shared resources.

Unit II : Time and Energy Management

12 Marks

- Time plan: Need and steps in preparing time plan.
- Importance of Rest and Leisure.
- Energy cost of different activities carried out in the home.
- Work Simplification - Meaning and Methods.
- Fatigue: Types, Ways of reducing fatigue.
- The relation of energy to the stages in the family life cycle.

Unit III : Money Management

12 Marks

- Family Income: Money Income, Real Income (Direct, Indirect) and Psychic income.
- Family Budget: Importance, types, steps in preparing budget.
- Means of supplementing family income.
- Savings: Need and methods of Savings.
- Consumer Education: Need and importance. Brief history of development of Consumer Education.
- Consumer Protection Act - Its salient features.
- Consumer's: Rights and Duties.

Practical

15 Marks

- 1) Preparing a Time plan for the mother and self.
- 2) Make a budget for the family.
- 3) Make a list of real Income available for their family.
- 4) Fill bank and post office saving account form.
- 5) Get practical experience in opening a savings account in the bank.
- 6) Survey of the locality to assess the awareness of the residents about their Consumer's Rights and Responsibilities.

SYLLABUS AND SCHEME OF ASSESSMENT FOR ENGLISH LITERATURE

Objectives of teaching English Literature

- To provide exposure to various genres of writing in English in order to develop sensitivity to literary and creative uses of the language.
- To expand the learners' vocabulary resources through various media.
- To develop a taste for reading and a critical faculty to examine a text and comment on its different aspects.
- To develop proficiency in English Language both in receptive and productive skills.
- To grasp the global meaning of the text, its gist and understand the interplay and inter-relationships between its theme and sub-themes.
- To form critical and evaluative opinions about a text, for example, how the details support a generalization or the conclusion either by classification or by contrast and comparison.
- To comprehend details, locate and identify facts, arguments, logical relationships, generalization, conclusion, in the texts.
- To draw inferences, supply missing details, predict outcomes, grasp the significance of particular details and interpret texts.
- To assess and analyze the point of view of the author.
- To infer the meanings and connotations of words and phrases from the context.
- To appreciate stylistic nuances, literal and figurative uses.
- To analyse a variety of texts on the basis of skills attained according to the aforesaid.
- To identify different styles of writing like humorous, satirical, contemplative, ironical and burlesque.
- To be able produce text-based writing (writing in response to questions or tasks based on prescribed as well as 'unseen' texts).

To develop familiarity with the poetic uses of language including features of the language through which artistic effect is achieved.

SYLLABUS AND SCHEME OF ASSESSMENT FOR ENGLISH LITERATURE

CLASS XI

MAX MARKS: 100

SECTION A: READING COMPREHENSION		15 MARKS
1	One unseen passage (400-500 words) followed by seven objective type and multiple choice questions.	7x1=7 Marks
2	One unseen poem followed by two questions based on interpretation, inference and critical appreciation (80-100 words each).	2x4=8 Marks
SECTION B: CREATIVE WRITING SKILLS		15 MARKS
3	One out of two questions on writing an essay on a contemporary issue of cultural/social/historical/environmental importance (400-500 words).	1x10=10 Marks
4	One out of two questions based on autobiographical writing based on childhood/school days/aspirations/ambitions/events/experiences/people/etc 200-250) words.	1x5=5 Marks
SECTION C: LITERATURE		50 MARKS
Poems		
5	One out of two reference-to-context questions.	1x5=5 Marks
6	Five out of eight questions based on poetic devices (metaphor, simile, hyperbole, personification, imagery, irony, paradox, etc).	5x2=10 Marks
7	One out of two questions based on critical analysis, theme, structure, genre, etc excluding poems dealt with at 3 above (100-120words)	1x5=5 Marks
Stories		
8	Four objective type/multiple choice questions based on the prescribed stories.	4x1=4 marks
9	Two out of four questions based on critical appreciation (30-40 words each).	2x3=6 Marks
10	One out of two questions based on theme, structure, genre, critical analysis, characterization, etc 120-150 words).	1x5=5 Marks
Essays		
11	Four objective type/multiple choice questions.	4x1=4 marks
12	Two out of four questions based on critical appreciation (30-40 words each).	2x3=6 Marks
13	One out of two questions based on theme, structure, genre, critical analysis, interpretation, etc. (120-150 words)	1x5=5 Marks
Internal assessment based on any two of the following:		2x10=20 Marks
1. Poetry reading to be followed by interpretative tasks based on close reading and literary analysis of the text. 2. Critical review of a film/ documentary/book (novella/play/poems/stories/essays/articles). 3. Writing an article on a contemporary issue of cultural/social/historical importance based on research done by the students under the guidance of the teacher. 4. Conducting a writing workshop focused on short story/poetry/translation/etc.		
Note: Teachers may develop their own rubrics to assess the performance of the students objectively.		
The parameters for assessing speaking skills as given in the curriculum for General English may be referred to.		

Book Prescribed

Glory: Textbook of English literature for Class XII Published by JKBOSE

PERSIAN

Marks: 80 (theory)+ 20 (internal assessment): =100 marks

Note: Sections A, B and C shall be asked from بخش اول of the prescribed textbook published by JKBOSE. The selected chapters from بخش دوم are as under.

بخشی نظر ۱- داراد سارا ۱۶۸

۲- تخته سپاه

۳- ماه و خورشید

۴- ماه و سال

۵- لائ پشت در عابی ها

۶- پیغمبر و فرمان

بخشی نظم

۱- راه مرسر

۲- چربان تراز مادر

۳- مادرگان

۴- کتاب خوب

۵- صبح

۶- درختچه ای

۷- شیخ سعید شیرازی (مناجات - صورتی)

Section A: Language

07 Marks

Q1. Translation of four Persian sentences into Urdu/English/Hindi out of six sentences.

(4x1=4 marks)

Q2. Translation of three Urdu/English sentences into Persian out of five sentences.

(3x1=3 marks)

Section B: Writing Skills

15 Marks

Q3. Four questions of one mark each will be asked out of six questions.

(4x1=4 marks)

Q4. To write the meaning of three Persian words in Urdu/English/Hindi and use them in sentences in Persian out of five words.

(3x1=3 marks)

Q5. Arrangement of words in order to make four meaningful sentences.

(4x1=4 marks)

Q6. Fill in the blanks with appropriate words of four sentences.

Section C: Applied Grammer (4x1=4 marks)
12 Marks

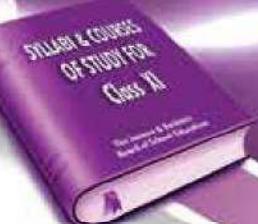
- Q7. Conjugation of two infinitives out three with respect to simple past tense. (2x2½ =5 marks)
- Q8. Conjugation of two infinitives out of three with respect to future tense (2x2½ =5 marks)
- Q9. Correction of two simple sentences. (2x1=2 marks)

Section D: Literature **46 marks**

- Q10. Translation of any three Persian passages into Urdu/English/Hindi. (3x5 =15 marks)
- Q11. Translation of any two Urdu/English/Hindi passages into Persian. (2x5 =10 marks)
- Q12. Translation of any two out of three verses into Urdu/English/Hindi. (2x3 =6 marks)
- Q13. Translation and explanation with reference to context of two verses into Urdu/ English/ Hindi out of three. (2x5 =10 marks)
- Q14. One question comprising 5 MCQS based on prescribed syllabus. (5x1 =5 marks)

Internal Assessment **(20 Marks)**

- Assessment of listening, reading writing and speaking skills
- Pen paper tests/ discussion and role play/ presentation on given topics/ debate/ seminar/ conference/ etc
- Project work like a short essay on any given topics in Persian language.
- Portfolio of students.



ବଡ଼ କ୍ଷୁଦ୍ର ପତ୍ର ପରୀକ୍ଷା ହକ୍କା

BHOTI

Marks 100

ଜାମ୍ମୁ ଓ କଶ୍ମିର ସାହିତ୍ୟ ବିଭାଗ
(J&K Board of School Education)

୨୫.୯୮ ଅଛି

୧. କ୍ଷେତ୍ର ପତ୍ର

(Prose Section)

ଅଛି ୪୦

୨. ଶତର୍ଥୀ ପତ୍ର

(Poetry Section)

ଅଛି ୨୦

୩. ଶାସ୍ତ୍ରୀୟ ଶାଖା

(Grammar Section)

ଅଛି ୪୦

مِنَ الظُّلْمِ إِلَى النُّورِ
तमसो मा ज्योतिर्गमय

୨. କ୍ଷେତ୍ର ପତ୍ର
(Prose Section)

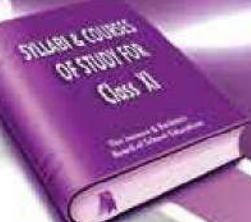
Marks 20

୩. ଶତର୍ଥୀ ପତ୍ର ଏବଂ ଶାସ୍ତ୍ରୀୟ ଶାଖା

୪. ଶାସ୍ତ୍ରୀୟ ଶାଖା

୫. ଶତର୍ଥୀ ପତ୍ର ଏବଂ ଶାସ୍ତ୍ରୀୟ ଶାଖା

୬. ଶତର୍ଥୀ ପତ୍ର ଏବଂ ଶାସ୍ତ୍ରୀୟ ଶାଖା



۱۔ اُخْرَى مَوْلِد (Poetry Section)

Marks 10

۲۰ پیش پارہ دیہ اکاڈمیک اسٹادیز ایجنسی کے طبق

۱۔ پڑھنے والے پڑھنے والے ایجنسی کے طبق

۲۔ اپنے اپنے اکاڈمیک اسٹادیز ایجنسی کے طبق

۳۔ اپنے اپنے اکاڈمیک اسٹادیز ایجنسی کے طبق

۴۔ اپنے اپنے اکاڈمیک اسٹادیز ایجنسی کے طبق

۵۔ اپنے اپنے اکاڈمیک اسٹادیز ایجنسی کے طبق

۶۔ اپنے اپنے اکاڈمیک اسٹادیز ایجنسی کے طبق

۷۔ اُخْرَى مَوْلِد (Grammar Section)

Marks 20

۱۔ ۱۹۹۴ ।

۲۔ ۱۹۹۳ ।

۳۔ ۱۹۹۲ ।

۴۔ ۱۹۹۱ ।

۵۔ ۱۹۹۰ ।

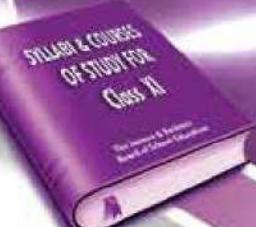
۶۔ ۱۹۸۹ ।

۷۔ ۱۹۸۸ ।

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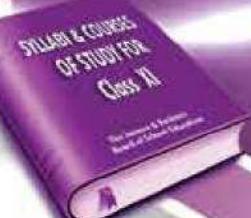


میکھاندشاد (Scheme of Assessment)

Note:-

میکھاندشاد پر کسی سچے نہیں۔ اسی وجہ سے اس کا ایسا اعلان کیا جائے کہ اس کا
امیدوار پڑھنے میں سچے نہیں۔

- | |
|---|
| <ul style="list-style-type: none"> ، کیتھ ایڈ (Prose Section) Marks 20 ، سپر کھاند پر کیتھ ایڈ کا مکمل ایڈ پری پارٹ اور ایڈ ، سپر کھاند کے پارٹ میں ایڈ پری پارٹ کا نہیں۔ لیکن اس
کا ایڈ پری پارٹ کو سچے نہیں۔ 07 ، سپر کھاند کی ایڈ پری پارٹ میں ایڈ پری پارٹ کا نہیں۔ 04 ، کیتھ ایڈ کے پارٹ میں ایڈ پری پارٹ کا نہیں۔ 03 ، کیتھ ایڈ کے پارٹ میں ایڈ پری پارٹ کا نہیں۔ 03 ، ایڈ پری پارٹ کے پارٹ میں ایڈ پری پارٹ کا نہیں۔ 03 |
|---|



१	क्रमांक १ (Poetry Section)	Marks 10
२	पद्मराशा प्रकृति की विद्या विद्या विद्या विद्या विद्या विद्या दि जुहु दिव्य दिव्य दिव्य दिव्य दिव्य दिव्य ।	अंक 4
३	क्रृष्ण की विद्या विद्या विद्या विद्या विद्या विद्या विद्या विद्या ।	अंक 2
४	पद्मराशा प्रकृति की विद्या विद्या विद्या विद्या विद्या विद्या विद्या दिव्य दिव्य दिव्य दिव्य ।	अंक 2
५	जल दिव्य विद्या विद्या विद्या विद्या विद्या विद्या विद्या विद्या ।	अंक 2
६	पद्मराशा प्रकृति की विद्या विद्या विद्या विद्या विद्या विद्या विद्या ।	पद्मराशा प्रकृति की विद्या विद्या विद्या विद्या विद्या विद्या ।
७	पद्मराशा प्रकृति की विद्या विद्या विद्या विद्या विद्या विद्या ।	अंक 7
८	पद्मराशा प्रकृति की विद्या विद्या विद्या विद्या विद्या ।	अंक 4
९	पद्मराशा प्रकृति की विद्या विद्या विद्या विद्या विद्या ।	अंक 2
१०	पद्मराशा प्रकृति की विद्या विद्या विद्या विद्या विद्या ।	अंक 2
११	पद्मराशा प्रकृति की विद्या विद्या विद्या विद्या विद्या ।	अंक 2
१२	पद्मराशा प्रकृति की विद्या विद्या विद्या विद्या विद्या ।	अंक 1
१३	पद्मराशा प्रकृति की विद्या विद्या विद्या विद्या विद्या ।	अंक 1
१४	पद्मराशा प्रकृति की विद्या विद्या विद्या विद्या विद्या ।	अंक 1



، කේතුව (Prose Section)

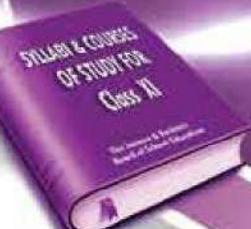
Marks 20

- ۱. පිළිස්සා දෙරණය සඳහා තොරතුරු යොමු කිරීම්
- ۲. නිශ්චල ප්‍රතිඵල මෙහෙයුම් සඳහා තොරතුරු යොමු කිරීම්
- ۳. මැණි ප්‍රතිඵල මෙහෙයුම් සඳහා තොරතුරු යොමු කිරීම්
- ۴. පිදු ප්‍රතිඵල මෙහෙයුම් සඳහා තොරතුරු යොමු කිරීම්
- ۵. රුධිර ප්‍රතිඵල මෙහෙයුම් සඳහා තොරතුරු යොමු කිරීම්
- ۶. උග්‍ර ප්‍රතිඵල මෙහෙයුම් සඳහා තොරතුරු යොමු කිරීම්

۳. ක්‍රියා පත්‍ර (Poetry Section)

Marks 10

- ۱. පිළිස්සා දෙරණය සඳහා තොරතුරු යොමු කිරීම්
- ۲. නිශ්චල ප්‍රතිඵල මෙහෙයුම් සඳහා තොරතුරු යොමු කිරීම්
- ۳. නිශ්චල ප්‍රතිඵල මෙහෙයුම් සඳහා තොරතුරු යොමු කිරීම්
- ۴. මැණි ප්‍රතිඵල මෙහෙයුම් සඳහා තොරතුරු යොමු කිරීම්
- ۵. උග්‍ර ප්‍රතිඵල මෙහෙයුම් සඳහා තොරතුරු යොමු කිරීම්
- ۶. උග්‍ර ප්‍රතිඵල මෙහෙයුම් සඳහා තොරතුරු යොමු කිරීම්



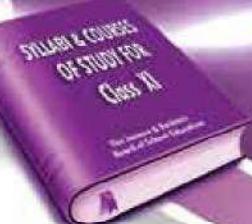
୩ ସଂଶୋଧ (Grammar Section)

Marks 20

- ୧ କାନ୍ତି ।
- ୨ ପରିଚୟ ।
- ୩ ପରିଚୟକାରୀ ପରିଚୟ ।
- ୪ କାନ୍ତିକାରୀ ପରିଚୟ ।
- ୫ କାନ୍ତିକାରୀ ପରିଚୟ ।
- ୬ କାନ୍ତିକାରୀ ପରିଚୟ ।
- ୭ କାନ୍ତିକାରୀ ପରିଚୟ ।
- ୮ କାନ୍ତିକାରୀ ପରିଚୟ ।
- ୯ କାନ୍ତିକାରୀ ପରିଚୟ ।
- ୧୦ କାନ୍ତିକାରୀ ପରିଚୟ ।

ମେତାକାରୀ ସମ୍ପଦ (Scheme of Assessment)

ମେତାକାରୀ ସମ୍ପଦ କୌଣସି କାନ୍ତିକାରୀ ପରିଚୟ କାର୍ଯ୍ୟକୁ ପରିବର୍ତ୍ତନ କରିବାକୁ ପାଇଁ ଏହାକାରୀ କାର୍ଯ୍ୟ କରିବାକୁ ପାଇଁ ଏହାକାରୀ କାର୍ଯ୍ୟ କରିବାକୁ ପାଇଁ



2. කොටස (Prose Section) Marks 20

- 1. ජයාරූප හඳුන්වනු ලබන පිටපත සහ මෘදු පිටපත
ඩැල් තීක්ෂණ මුද්‍රණ ප්‍රතිචාර නිස්සාමේ නිස්සාමේ | මුද්‍රණ දෙ
ක්වී දැනු යුතු ඇතුළු | මු 07
- 2. ජයාරූප හඳුන්වනු ලබන පිටපත සහ මෘදු පිටපත නිස්සාමේ නිස්සාමේ
ඩැල් තීක්ෂණ මුද්‍රණ ප්‍රතිචාර නිස්සාමේ නිස්සාමේ | මු 04
- 3. ජයාරූප හඳුන්වනු ලබන පිටපත සහ මෘදු පිටපත නිස්සාමේ නිස්සාමේ
ඩැල් තීක්ෂණ මුද්‍රණ ප්‍රතිචාර නිස්සාමේ නිස්සාමේ | මු 03
- 4. තේක්ස්ත්‍රික ප්‍රතිචාර නිස්සාමේ නිස්සාමේ නිස්සාමේ නිස්සාමේ
ඩැල් තීක්ෂණ මුද්‍රණ ප්‍රතිචාර නිස්සාමේ නිස්සාමේ | මු 03
- 5. තේක්ස්ත්‍රික ප්‍රතිචාර නිස්සාමේ නිස්සාමේ නිස්සාමේ නිස්සාමේ
ඩැල් තීක්ෂණ මුද්‍රණ ප්‍රතිචාර නිස්සාමේ නිස්සාමේ | මු 03

3. ක්‍රියාත්මක පතන (Poetry Section) Marks 10

- 1. තේක්ස්ත්‍රික පතන දැනු ඇති පිටපත නිස්සාමේ නිස්සාමේ
ඩැල් තීක්ෂණ මුද්‍රණ ප්‍රතිචාර නිස්සාමේ නිස්සාමේ | මු 04
- 2. තේක්ස්ත්‍රික පතන දැනු ඇති පිටපත නිස්සාමේ නිස්සාමේ
ඩැල් තීක්ෂණ මුද්‍රණ ප්‍රතිචාර නිස්සාමේ නිස්සාමේ | මු 02
- 3. දැනු ඇති පිටපත නිස්සාමේ නිස්සාමේ නිස්සාමේ නිස්සාමේ
ඩැල් තීක්ෂණ මුද්‍රණ ප්‍රතිචාර නිස්සාමේ නිස්සාමේ | මු 02
- 4. ප්‍රතිචාර නිස්සාමේ නිස්සාමේ නිස්සාමේ නිස්සාමේ | මු 02



۲۔ ہندوستانی (Grammar etc.)

Marks:20

- | | | |
|----|--|----|
| ۱۔ | ہندوستانی کے مادہ اور پارہیزی کا دس بارہ بیانیہ درج کرنے کے لئے ۳۰۰ نامہ میں
لکھ کر پختہ کریں । | ۰۷ |
| ۲۔ | ہندوستانی کے مادہ اور پارہیزی کا دس بارہ بیانیہ درج کرنے کے لئے ۳۰۰ نامہ میں
لکھ کر پختہ کریں । | ۰۴ |
| ۳۔ | ہندوستانی کے مادہ اور پارہیزی کا دس بارہ بیانیہ درج کرنے کے لئے ۳۰۰ نامہ میں
لکھ کر پختہ کریں । | ۰۲ |
| ۴۔ | ہندوستانی کے مادہ اور پارہیزی کا دس بارہ بیانیہ درج کرنے کے لئے ۳۰۰ نامہ میں
لکھ کر پختہ کریں । | ۰۲ |
| ۵۔ | ہندوستانی کے مادہ اور پارہیزی کا دس بارہ بیانیہ درج کرنے کے لئے ۳۰۰ نامہ میں
لکھ کر پختہ کریں । | ۰۱ |
| ۶۔ | ہندوستانی کے مادہ اور پارہیزی کا دس بارہ بیانیہ درج کرنے کے لئے ۳۰۰ نامہ میں
لکھ کر پختہ کریں । | ۰۱ |
| ۷۔ | ہندوستانی کے مادہ اور پارہیزی کا دس بارہ بیانیہ درج کرنے کے لئے ۳۰۰ نامہ میں
لکھ کر پختہ کریں । | ۰۱ |
| ۸۔ | ہندوستانی کے مادہ اور پارہیزی کا دس بارہ بیانیہ درج کرنے کے لئے ۳۰۰ نامہ میں
لکھ کر پختہ کریں । | ۰۱ |

مِنَ الظُّلْمِتِ إِلَى النُّورِ
تَمَسَّكَ مَا جَيْرَةِ مَيِّرَ

Punjabi

Max. Marks -100
External Exam. -80
Int. Assessmenr (Project+viva) $15+5=20$

- | | |
|------------------------------------|----------|
| 1. ਪੁਸਤਕ ‘ਕਾਵਿ ਪ੍ਰਵਾਹ’ ਵਿਚੋਂ | - 20 ਅੰਕ |
| 2. ਪੁਸਤਕ ‘ਦਸ ਝਰੋਖੇ’ ਵਿਚੋਂ | - 20 ਅੰਕ |
| 3. ਪੁਸਤਕ ‘ਪੰਜ ਚੋਣਵੇਂ ਇਕਾਂਗੀ। ਵਿਚੋਂ | -20 ਅੰਕ |
| 4. ਵਿਆਕਰਣ ਭਾਗ | - 20 ਅੰਕ |

Note for Internal Assessment

ਨੋਟ - ਆਂਤਰਿਕ ਪ੍ਰੀਖਿਆ ਵਿਚ ਦਿੱਤੇ ਗਏ ਯੋਜਨਾਬੱਧ ਕਾਰਜ ਨੂੰ ਦੋ ਭਾਗਾਂ ਵਿਚ ਵੰਡਿਆ ਗਿਆ ਹੈ, ਜਿਸ ਵਿਚੋਂ 15 ਅੰਕ ਨਿਰਦੇਸ਼ਿਤ ਕਾਰਜ ਅਤੇ 5 ਅੰਕ ਮੌਖਿਕ ਪ੍ਰੀਖਿਆ ਨੂੰ ਦਿੱਤੇ ਜਾਣਗੇ। ਇਸ ਵਿਚ ਪੜ੍ਹਨ, ਲਿਖਣ ਅਤੇ ਸਿਖਣ ਦੇ ਤਿੰਨੇ ਕੋਸਲ (Skill) ਸ਼ਾਮਲ ਹੋ ਜਾਣਗੇ।
(Project (15)+ Viva(05)= 20 Marks)

مضمون : کاوشِر جاتھ : گھم وق : 3 گانجہ نمبر : 80

- * نصائی کتاب یہ مژد نہ آمتہ نشر تھے شاعری سند حوالہ مبن (44) نمبر ہندی سوال پڑھنہ۔
- * لیکھنے مہارت تھے تخلیقی صلاحیت پر کھاؤنے باپتھ مبن (18) نمبر ہندی سوال پڑھنہ۔
- * گرامرس متعلق مبن (18) نمبر ہندی سوال پڑھنہ۔

حصہ (الف) : نصائی کتاب

سوال نمبر (1) : سبق تھے لکھاری سند حوالہ دیتھ دنہ آتمیو دلو نظر پارو منہ آج کچ وہ ہنے۔ (6) نمبر

سوال نمبر (2) : گنجہ نثری سبقہ مژد کرنا نہ آتیں اقتباس متعلق پڑھنہ آمتین ٹورن سوالن ہندی جواب
3+1+1+1=4 نمبر

سوال نمبر (3) : گنجہ نثری سبقہ خلاصہ / تقيیدی جائیز یا کائسی کردار متعلق نوٹ۔
(5) نمبر 60 پیٹھ لفظن تام

سوال نمبر (4) : نصائی کتاب یہ مژد شامل نثری سبقن پتھ کنہ دنہ آتمیو ڈرو مشقی سوالو مژد وہنہ جواب
2+2=4 نمبر لیکھن -

سوال نمبر (5) : نصایس مژد شامل تریبون نگارو منہ آگس پیٹھ نوٹ لیکھن۔
(5) نمبر 60 پیٹھ لفظن تام

سوال نمبر (6) : نصائی کتاب یہ مژد کرنا نہ آتمیو تریبون شعرو منہ (شاعر سند حوالہ دیتھ) دون شعرن ہنز تشرح
(6) نمبر کرن -

سوال نمبر(7): نصابس مژـشـائـل تـرـیـو شـاعـر و مـژـاـکـس پـیـظـنـوـٹ۔ (یا)

دـنـہـ آـمـرـوـ تـرـیـو شـعـرـ صـنـفوـ مـژـاـکـس پـیـظـنـوـٹ (60) پـیـظـنـوـٹ 80 لـفـظـنـ تـامـ) ----- (5) نـمـبر

سوال نمبر(8): نـصـابـیـ کـتـایـہـ مـژـشـائـلـ منـظـوـمـنـ پـہـشـدـسـ اـخـرـسـ پـیـظـنـوـٹ دـنـہـ آـمـرـوـ تـرـیـو شـعـرـ مـشـقـیـ سـوـاـلـوـ مـژـدـوـنـ پـہـشـدـنـ (2+2=4) نـمـبر

سوال نمبر(9): پـاـڑـہـنـ مـوـخـصـ سـوـالـنـ ہـنـدـیـ جـوـابـ لـبـکـھـنـ 1+1+1+1+1=5) نـمـبر

حـصـہـ (بـ) : لـبـکـھـنـ مـہـارـتـ

سوال نمبر(10): دـنـہـ آـمـرـوـ تـرـیـو عـنـوـاـلـوـ مـژـاـکـسـ پـیـظـنـ مـضـمـوـنـ لـبـکـھـنـ۔

(8) نـمـبر

100 لـفـظـنـ تـامـ)

سوال نمبر(11): پـنـجـھـ یـاـ درـغـاسـ لـبـکـھـنـ (6) نـمـبر

سوال نمبر(12): اخـبـارـیـ رـپـوـٹـ رـمـیـلـنـگـ یـاـ کـنـہـ تـقـرـیـبـہـ ہـنـزـ کـارـوـائـیـ رـاـہـتـارـ رـاـیـ مـیـلـ یـاـ اـبـسـ اـبـمـ اـبـسـ لـبـکـھـنـ (کـاـنـہـ الـہـ) (4) نـمـبر

حـصـہـ (جـ) : گـرامـرـ

سوال نمبر(13): گـھـمـہـ جـمـاـئـہـ ہـنـزـ نـصـابـیـ کـتـایـہـ مـژـشـائـلـ گـرامـکـہـ حـوالـہـ ژـوـدـہـوـ مـوـخـصـ سـوـاـلـوـ مـژـدـوـنـ ہـنـدـیـ جـوـابـ لـبـکـھـنـ (9 x 2 = 18) نـمـبر

آئچ بانگن پچھے يتحمہ پاٹھو:

1- وقتہ وقتہ تشييص کرنا (Periodic Assessment)

يتحمہ حڪس یئه مزید بانگن يتحمہ پاٹھو کرنے:

(i) کاغذی تے قلمی تشييص (Pen and Paper Assessment): يتحمہ حڪس منجزاً و وساد طالب

علم ن مذکور مضمون متعلق کيئه موخر سوال یئمہ عرق تہند وزن تے بولن ول، تخلیقی ہنر تے گرامېچ زان

پر کھنپنے یئه

(ii) کچھ پہلو تشييص (Multiple Assessment): يتحمہ حڪس منز کر و وساد طالب علم کويز (Quiz)

زمآن امتحان (Oral Test)، بحث و مباحثہ (Group Discussion)، بيت بازي تے سکولہ نئیہ کيئن

کامن (Outdoor Activities) ہنز پرکھ۔ یہ مشق پچھے ناصلکر تھ طالب علم منز بوزعج تے بولنچن

صلاحیئن و وتحمہ واشر دنے باپتھ ضروری

2- پورٹ فوليو (Portfolio): امه نو عيتكس تشييص دوران پر کھمہ و وساد سکول، جماڑتے غارنصائی کامن

تے مشق دوران طالب علم ہنز کلہم شرکت تے کارکر دگی

(5) نمبر

3- موضوعي و وتحمہ واشر (Subject Enrichment): يتحمہ حڪس منز پر کھمہ و وساد طالب علم نہند

وزن، بولن تے لبکھن ول تے امه باپتھ کر تمن کيئه عملی سرگرمیہ تفاصیل یئمہ عرق یہند مذکور مضمون نسبت

کلہم و وتحمہ واشر ک انداز کرنے یئه

(5) نمبر

(نوٹ): و وسادس چھ لازی من مذکور تشييص ہندس بنيادس پيٹھ طالب علم ہنز پرکھ کرنے تے امينک کلہم

ريکارڈ سائمس تھاؤ تھ تمن نمبر دن۔

حصہ الف: ب نثری حصہ (۲۰ نمبرات پر مشتمل)

- سوال نمبر 1: نصابی کتاب کے نثری اسماق سے لیے گئے دو اقتباسات میں ایک کے آخر میں دیے گئے نچار سوالات کے جواب تحریر کرنا۔ $4 \times 2 = 8$
- سوال نمبر 2: کتاب کے نثری اسماق سے لیے گئے چار سوالات میں سے دو کے جواب لکھنا۔ (پچاس سے کم ۲x2=4 الفاظ میں)
- سوال نمبر 3: کسی ایک نثری سبق کا خلاصہ لکھنا۔ (دو میں سے ایک) 4
- سوال نمبر 4: شامل نصاب نثر نگاروں میں سے پوچھے گئے تین میں سے کسی ایک کے حالات زندگی یا ادبی خدمات پر نوٹ تحریر کرنا۔

یا

4 شامل نصاب نثری اصناف میں سے دو سے ایک پر نوٹ لکھنا۔

حصہ ب: شعری حصہ (بیس نمبرات پر مشتمل)

- سوال نمبر 5: شامل نصاب غزلیات میں سے پوچھے گئے چار اشعار میں سے دو کی تشریح کرنا۔

یا

شامل نصاب نظموں یا مشنوی میں سے پوچھے گئے دو بندوں میں سے ایک کی تشریح کرنا۔

4

- سوال نمبر 6: شامل نصاب شعرا میں سے پوچھے گئے تین میں سے کسی ایک کے حالات زندگی یا ادبی خدمات کا جائزہ۔ 4

- سوال نمبر 7: شامل نصاب نظموں میں سے پوچھی گئی دو نظموں میں سے ایک کا خلاصہ یا مرکزی خیال لکھنا۔

4

- سوال نمبر 8: شامل نصاب شعری اصناف میں سے کسی صنف پر نوٹ لکھنا (تین میں سے ایک) 4
- سوال نمبر 9: دی گئی پانچ شعری اصطلاحات میں سے دو کی مثالوں کے ساتھ وضاحت کرنا۔ $2 \times 2 = 4$

حصہ ج: تخلیقی حصہ (۲۰ نمبرات پر مشتمل)

- سوال نمبر 10: دیے گئے پانچ عنوانات میں سے کسی ایک پر دو سو (۲۰۰) الفاظ کا مضمون لکھنا۔ عنوانات سائنسی، سماجی، ادبی، ثقافتی، طبعی، ماحولیاتی یا کھلیل کود متعلق ہوں۔ 10

- سوال نمبر 11: دیے گئے تین نجی روپ فرمتی رکار و باری خطوط و درخواست میں سے کسی ایک کو لکھنا۔ 5

- سوال نمبر 12: اخباری اشتہار یا رپورٹ تحریر کرنا (تین میں سے ایک) 5

حصہ د: ادبی تاریخ اور معروفی سوالات کا حصہ (بیس نمبرات پر مشتمل)

- سوال نمبر 13: شامل نصاب تحریکات، رہنمائیات، ادارہ جات وغیرہ سے متعلق پوچھے گئے چار میں سے دو سوالات کے مفصل جوابات لکھنا۔ $2 \times 6 = 12$

- سوال نمبر 14: معروفی سوالات۔ نصاب کے نثری حصے سے تین، شعری حصے سے تین اور قواعد سے متعلق دو (کل آٹھ)

$1 \times 8 = 8$

داخلی تشخیص کا خاکہ

نمبرات = 20

۱۔ وقاً فتاً تشخیص (Periodical Assesment): نمبرات: 10

اس قسم کی تشخیص کو مزید دوزموں میں تقسیم کیا جاتا ہے اور ہر زمرے کے پانچ پانچ نمبرات ہیں۔

الف۔ کاغذی قلمی جائز (Pen Paper Test): نمبرات: (5)

اس قسم کی جائز میں استاد طلاب کو قواعد، نثر اور شاعری کے متعلق مختلف انواع منحصر اور منحصر ترین سوالات پر مبنی آسان اور منحصر امتحانات منعقد کرے گا۔ ان امتحانات کے ذریعے طلاب کی تفصیلی اور خلاصتی صلاحیت کا تعین کیا جائے گا۔

ب۔ کشیر پیلو جائزہ (Multiple Assesment): نمبرات: (5)

اس قسم کے جائزے میں استاد کلاس میں کونز، مذاکرے، مباحثے، بیت بازی، شعر سازی اور اسی نوعیت کی دیگر مشقیں کرائیں گے۔ اس کے ذریعے طلاب کے سنتے اور بولنے کی صلاحیت اور مہارت کا تعین کیا جائے گا۔

۲۔ پورٹفولیو تشخیص (Portfolio Assesment): نمبرات: 5

اس قسم کی تشخیص میں استاد طلاب کی اسکول اور جماعت کے اندر کارکردگی کو پر کھے گا۔ اسکول کی غیر نصابی سرگرمیں میں اس کے رول کو جانچا جائے گا۔ اس دوران طلاب کی کارکردگی کو ریکارڈ کیا جائے گا۔ صباہی مجلس، شفافی پروگرام، سماجی اصلاح و خدمت اور کھیل کو دیں طلاب کی کارکردگی کو جانچا جائے گا۔

۳۔ مضمون کی افزودگی کی (Subject Enrichment Activity): نمبرات: 5

اس نوعیت کی تشخیص میں استاد متعلقہ مضمون میں طلاب کی افزودگی کو پیشی بنانے کے لئے تفویضی مشق اور پڑھنے والکھنے کی عملی سرگرمیوں طلاب کی شرکت کو پیشی بنائے گا۔ مختلف انواع موضوعات جیسے، اسلامی، ادبی، تمدنی، سماجی، حب الوطنی اور ادبی تاریخ کے متعلق طلاب کو پڑھنے اور لکھنے کے لئے آمادہ کیا جائے گا۔ اس تشخیص میں طلاب کی لکھنے پڑھنے کی صلاحیت اور مہارت کو پر کھا جائے گا۔

(نوٹ: داخلی تشخیص کے تمام مرحلے کارکارڈ اسٹاداپنے پاس موجود رکھے گا۔ اسکول سربراہ اس قسم کی تشخیص کا جائزہ مابانہ بنیادوں پر پیشی بنائے گا)

درسی اسباق

حصہ نثر

- | | |
|---------------------|-----------------------|
| میر امن دہلوی | ۱۔ حاتم کی سخاوت |
| رشید احمد صدیقی | ۲۔ دعوت |
| پنڈت جواہر لال نہرو | ۳۔ ایک یادگار وصیت |
| عبد الغنی شیخ لدھنی | ۴۔ سلک روٹ |
| مولوی عبدالحق | ۵۔ گذری کالال نور خان |
| ڈاکٹر ڈاکر حسین | ۶۔ آخری قدم |
| اطہر پرویز | ۷۔ محلے کی ہوی |

حصہ شعر

ولی دتی، خواجہ میر درد، علامہ اقبال، شاعر ظیم آبادی، جگر مراد آبادی، حکیم منظور کی دودو غزلیں۔

داستان تباہ ہونے کی شہزادے کے غم میں (سحر البيان) میر حسن مثنوی

بنجرا نامہ نظیر اکبر آبادی نظم

فرضی لطیفہ اکبرالہ آبادی نظم

خودستائی مولانا الطاف حسین حائلی نظم

पाठ्यक्रमः

कक्षा – एकादशी (11th)

विषयः - संस्कृतम्

पूर्णाङ्गकाः = 80

आन्तरिकम् = 20

क्र.सं.	भागः	विषयस्य विवरणम्	अङ्गकाः
1.	भाग – क (अपठित-अवबोधः)	ज्ञानात्मकं विश्लेषणात्मकं शब्द- अवबोधात्मकं सृजनात्मकञ्च ।	08
2.	भाग - ख (रचनात्मक-कार्यम्)	क. हिन्दी – संस्कृत – अनुवादः । ख. संस्कृत –हिन्दी –अनुवादः । ग. कालिदासकृत – कुमारसम्भवस्य (पञ्चमसर्गः) सर्गस्य सारांशः ।	04 04 04
3.	भाग - ग (अनुप्रयुक्त-व्याकरणम्)	क. स्वरसन्धिः – दीर्घः , गुणः, वृद्धिः, यण्, अयादि ख. शब्दरूप – अकारान्तपुल्लिङ्ग – यथा बालक । आकारान्तस्त्रीलिङ्ग – यथा बालिका । ईकारान्तस्त्रीलिङ्ग – यथा नदी । उकारान्तपुल्लिङ्ग – यथा गुरु । सर्वनामशब्दरूप – अस्मद्, युष्मद्, तद्, किम्, इदम् । ग. धातुरूप – भू, गम्, पठ्, स्मृ, दृश्, कृ, पा, रक्ष्, हस् (लट्, लोट्, लृट् एवं लङ्ग- लकारेषु) । घ. समासः – कर्मधारय, तत्पुरुषः, द्वन्द्वः, द्विगुः । ड. प्रत्ययः – क्त्वा, तुमन्, ल्यप्, क्त-क्तवतु	04 04 04 04 04 04
4.	भाग - घ (पठित-अवबोधः)	गद्य एवं पद्यभागः – रड्गिणी : NCERT द्वारा सङ्कलितम् एवं सम्पादितम् – क. उदयनस्य पत्नी प्रीतिः । ख. शकुन्तलायाः पतिगृहगमनम् । ग. सीतापरित्राणम् । घ. वस्तुनिष्ठप्रश्नाः । पद्यभागः – कुमारसम्भवम् – पञ्चमसर्गः – 1- 45 श्लोकाः। 1. सप्रसङ्ग व्याख्या – (एकस्य श्लोकस्य) 1-20 श्लोकेषु । 2. श्लोकानुवादः(एकस्य श्लोकस्य) । 3. वस्तुनिष्ठप्रश्नाः ।	05 05 05 03 05 04 03
5.	भाग – ङ (साहित्यम्)	1. रामायणस्य महत्त्वम् । 2. कविरूपेण कालिदासः । 3. महाभारतस्य सामान्यः परिचयः कालनिर्धारणञ्च । 4. नाटकानाम् उद्धवः विकासश्च । 5. नाटककाररूपेण भासः ।	5+5=10
6.	पूर्णाङ्गकाः:		80

आन्तरिक – मूल्यांकनम् (२० अंडका:)

"श्रवण - भाषण - पठन - लेखनकौशलानां मूल्यांकनम्" - चतुर्णा कौशलानां मूल्यांकनं २० (विंशति:) अंडकानां कृते भविष्यति । अभ्यासः मूल्यांकनं च निर्धारितेषु पाठ्यपुस्तकेषु समाविष्टानां क्रियाकलापानाम् आधारेण तथा च विद्यालये उपलब्धानां विविधानां संसाधनानां, तन्त्रांशानां च आश्रयं स्वीकृत्य करणीयम् । आन्तरिक-मूल्यांकनं संस्कृत-भाषायाम् एव भवेत् ।

श्रवण- भाषण कौशलस्य मूल्यांकनम् : Assessment of Listening and Speaking Skills

सम्भाषणम् (Speaking) –

15

मम नाम - भवतः नाम किम् ? भवत्या: नाम किम् ? द्वयोर्मध्ये परिचयः । सः कः ? सा का ? तत् किम् ? एषः, एतत् । अहम्, भवान्, भवती । अस्ति-नास्ति । आम्, न, वा । तत्र, अत्र, कुत्र, सर्वत्र, अन्यत्र, एकत्र अभिनयपूर्वकम् । षष्ठी विभक्ति - तस्य, एतस्य, कस्य, तस्याः, एतस्याः, कस्याः, भवतः, भवत्या: । मम पुस्तकम्, भवतः पुस्तकम्, भवत्या: पुस्तकम्, अभिनयपूर्वकम् । एतद् कस्य ? वस्तूनि प्रदर्शय प्रश्नाः । दशरथस्य। सीतायाः स्फोरकपत्रस्य (Flash Card) उपयोगः करणीयः 'पुत्रः' 'पतिः' इत्यादीनां वाक्यपत्राणाम् (Charts) उपयोगः करणीयः । आवश्यकम्, मास्तु, पर्याप्तम्, धन्यवादः, स्वागतम् । सम्भाषणप्रदर्शनम् । क्रियापदानां पाठनम् । गच्छति । आगच्छति । पठति । लिखति । खादति । पिबति । क्रीडति । वदति । उत्तिष्ठति । उपविशति । गच्छामि । आगच्छामि.....। गच्छतु । आगच्छतु

संख्यापाठनम् - (अ) १,२,३,४, ..१० । (ब) १०,२०,३०,..... १०० ।

समयपाठनम् - ५:००, ५:१५, ५:३०, ४:४५ कथा यथा- पिपासितः काकः । (काचित् कथा सरलया भाषया वक्तव्या) त्रिषुलिङ्गेषु बहुवचनपाठनम् -

बालकाः / बालिकाः / लेखन्यः / पुस्तकानि । ते, के, ताः, काः, तानि, कानि, एते, एताः, एतानि, भवन्तः, भवत्यः, वयम् । (चित्राणि उपयोक्तव्यानि)

परिवर्तनाभ्यासः : यथा - सः बालकः - ते बालकाः । अस्ति, सन्ति ।

कति ? कति वासरा: सन्ति ? सप्त वासरा: सन्ति ।

सप्तमी - हस्ते । उत्पीठिकायाम् । लेखन्याम् । पुस्तके । (स्फोरकपत्रस्य उपयोगः करणीयः ।) वाक्यपत्रस्य उपयोगेन वाक्यानि वाचनीयानि ।

कदा ? गणेशः प्रातः काले व्यायामं करोति । गणेशः कदा व्यायामं करोति ? उत्तराणां प्रश्नाः । (शिक्षकः आरम्भे उत्तरं वदेत्, अनन्तरं छात्राः तस्य प्रश्नं पृच्छेयुः ।)

यथा - रामः प्रातः काले शालां गच्छति । रामः कदा शालां गच्छति ? अद्य, शः, परश्वः, प्रपरश्वः, ह्यः, परह्यः, प्रपरह्यः, इदानीम् । शिष्टाचारः - सुप्रभातम् / नमस्कारः / शुभरात्रिः / क्षम्यताम् / चिन्ता मास्तु ।

प्रातर्विधिः - दन्तधावनम् इत्यादयः शब्दाः पाठनीयाः ।

संख्या: १-५०, समयः - ६:०५, ६:१०, ५:५५, ५:५०

स्वागतसम्भाषणम् ।

क्रियापदानां बहुवचनरूपाणि - गच्छन्ति - गच्छामः - गच्छन्तु (Chart दर्शनीयम्) ,पिबन्ति - पिबामः - पिबन्तु ।,लिखन्ति - लिखामः - लिखन्तु ।इत्यादिपरिवर्तनाभ्यासः कारणीयः ।

द्वितीयाविभक्तिः - स्फोरकपत्राणाम् उपयोगः । वाक्यपत्राणि उपयुज्य वाक्यानि वाचनीयानि । कृपया ददातु - वस्तूनि प्रदर्श्य । शिक्षकः एकैकं वस्तु प्रदर्शयति । उदा - घटी, गन्थः... । छात्राः कृपया घटीं ददातु, कृपया ग्रन्थं ददातु इत्यादि वदेयुः । (स्फोरकपत्रस्य उपयोगः ।)

पुरतः, पृष्ठतः, वामतः, दक्षिणतः, उपरि, अधः । (चित्रं दर्शनीयम्) --तः । इतः, ततः, गृहतः, कुतः ? (स्फोरकपत्राणाम् उपयोगः ।) वाक्यपत्राणि उपयुज्य वाक्यानि वाचनीयानि ।

शीघ्रम् - मन्दम् । उच्चैः - नीचैः । कथम् ? सम्यक् । किमर्थम् ?

सप्त ककाराः - (किम् ? कुत्र ? कति ? कदा ? कुतः? कथम् ? किमर्थम् ?) (Chart प्रदर्शनीयम्)

एकैकम् उपयुज्य परस्परं प्रश्नाः । अपि, अस्तु, अहं न जानामि । कानिचन वाक्यानि ।

क्रियापदानि उपयुज्य छात्राः वर्तमानकाले वाक्यानि वदन्ति (ए.व. - ब.व.)

विशिष्टक्रियापदानाम् अभ्यासः -

करोमि - कुर्मः । करोति - कुर्वन्ति । ददामि - दद्यः । ददाति - ददति ।

सम्बोधनम् – भोः ! श्रीमन् ! मान्ये ! भगिनि ! मित्र ! राम ! संख्याः १- १०० समयः १:००, २:००, ३:००, ४:००

इत्यादि । प्रदर्शनम् (मित्रसंलापः)।

अथवा – सम्भाषणशिबिराधारेण अध्यापकेन सरल - संस्कृत - सम्भाषणं पाठनीयम् ।

शिक्षकानां कृते :- कृपया शिक्षकाः शिक्षणकौशलानि उपयुज्य अभिनयपूर्वकम् एतान् बिन्दून् पाठयेयुः येन छात्राः सहजतया सम्भाषणशीलाः भवेयुः।

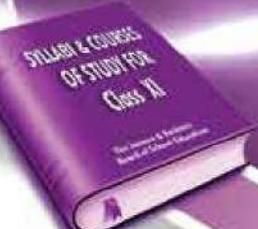
कृपया शिक्षक शिक्षण कौशलों का सही उपयोग करते हुए अभिनय पूर्वक इन बिंदुओं को पढ़ाएं, जिससे छात्र सहज ही संस्कृत में संभाषणशील हो जाएं।

परियोजना-कार्यम् :- Project work

05

कस्मिंश्चित् एकस्मिन् विषये - यथा :-

1. भारतीय उत्सवाः ।
2. कारकम्, सन्धिः, समासः, प्रत्ययादि ।
3. जल संरक्षणम् ।
4. पर्यावरणादिविषयाः ।
5. विद्यालयीय-सम्बद्ध-वस्तूनि । (तदाधारेण वाक्यनिर्माणम्)
6. गृहवस्तूनि । (तदाधारेण वाक्यनिर्माणम्)



PUBLIC ADMINISTRATION

M.MAX= 80

TIME: 3 HOURS

Project Work: 20 Marks

PART A INTRODUCTION OF PUBLIC ADMINISTRATION

UNIT I INTODUCTION

(MARKS 04)

- Meaning, Nature, Scope and Significance of public Administration
- Politics – Administration Dichotomy
- Public and Private Administration – Similarities and Differences

UNIT II METHODOLOGY OF PUBLIC ADMINISTRATION AND ITS RELATION TO OTHER SCIENCES

(MARKS 05)

- Phislophical Approach
- Legal Approach
- Historical Approach
- Relation with Law, Science and Technology and Economics

UNIT III NEW PUBLIC ADMINISTRATION

(MARKS 06)

- Meaning, concept and significance
- Fist Minnowbrook conference
- Goals, anti-goals and criticism

UNIT IV DEVELOPMENT ADMINISTRATION

(MARKS 06)

- Evolution and characteristics
- Contribution of Weidner
- Development administration vs Traditional administration

UNIT V ORGANISATION

(MARKS 06)

- Meaning, Origin and importance
- Formal and informal
- Principles of organisation

UNIT V1 UNITS OF ORGANISATION

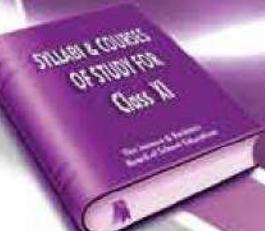
(MARKS 06)

- Hierarchy
- Span of control
- Delegation
- Co-ordination

UNIT VII GOVERNANCE AND GOOD GOVERNANCE

(MARKS 07)

- Origin and growth
- Elements of good governance
- E-governance
- Role of E-governance in digital India
- Sustainable development and its goals



PART B THEORIES OF ADMINISTRATION

UNIT I SCIENTIFIC MANAGEMENT

(MARKS 04)

- Contribution of Taylor
- Principles
- Techniques and criticism

UNIT II CLASSICAL THEORIES

(MARKS 05)

- Contribution of Fayol, Urwick and Gulick
- Principles
- Significances and Gang plank

UNIT II BUREAUCRATIC THEORY

(MARKS 06)

- Contribution of Weber
- Types, Characteristics and criticism

UNIT IV HUMAN RELATION THEORY

(MARKS 06)

- Howthorne studies
- Elements
- Critical evaluation
- Classical vs Human relation

UNIT V DECISION- MAKING

(MARKS 06)

- Concept of Simon
- Stages/Process
- Difference between Programmed and Non-Programmed decisions

UNIT VI MOTIVATIONAL THEORY

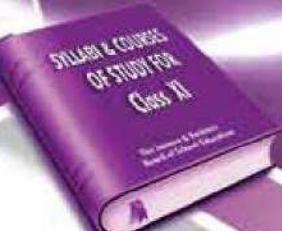
(MARKS 06)

- Meaning, Types of motives
- Need hierarchy theory (Maslow)
- Propotency, characteristics
- Herzberg's two factor theory

UNIT VII LEADERSHIP

(MARKS 07)

- Introduction, Definitions of Leadership
- Types of Leaders
- Situational Approach



This question paper contains five sections:

- i. Section -A contains 10 Very Very Short Answer Type Questions of 1 mark each. $1 \times 10 = 10$ marks
- ii. Section- B contains 9 Very Short Answer Type Questions of 2 marks each to be answered in 20 to 30 words. $2 \times 9 = 18$ marks
- iii. Section - C contains 7 Short Answer type questions of 4 marks each to be answered in 100 to 150 words. $4 \times 7 = 28$ marks
- iv. Section - D contains 1 Passage having 3 questions of 2 marks each to be answered in 20 to 30 words. $2 \times 3 = 6$ marks
- v. Section - E contains 3 Long Answer type questions of 6 marks each to be answered in 150 to 200 words. $6 \times 3 = 18$ marks

Suggested Readings

- Anderson J.E., (2006) Public Policy-Making: An introduction, Boston, Houghton Arndt
Christiane and Charles Oman (2006), Uses and Abuses of Governance Indicators,
OECD, Paris.
- Avasthi & Maheshwari (2012), Public Administration, Lakshminarayan Agarwal, Agra
- Bergerson, Peter J. (ed.), (1991), Teaching Public Policy: Theory, Research and Practice,- Westport, RI: Greenwood Press
- Bhattacharya, Mohit (2013), New Horizons of Public Administration, Jawahar Publishers, New Delhi.
- Birkland Thomas A., (2005), An Introduction to The Policy Process: Theories, Concepts, And Models of Public Policy Making, Armonk; M.E. Sharpe
- Donald Menzel and Harvey White (eds) (2011). The State of Public Administration: issues, Challenges and Opportunities, New York, M. E. Sharpe.
- Dye Thomas (2008), understanding Public Policy, Singapore, Pearson Education
- Henry, Nicholas (2006), Public Administration and Public Affairs, Prentice Hall of India, New Delhi.
- Jan-Erik Lane, (2000) New Public Management: An Introduction, Routledge, London.
- O'Leary, Rosemary et al. (2010), The Future of Public Administration around the World: The Minnowbrook Perspective, George Town university Press, DC
- Ravindra Prasad, D. Prasad, VS Prasad, P. Satyanarayana, and Y. Pardhasaradhi, (eds) (2013), Administrative Thinkers, Sterling, New Delhi.
- UN, Department of Economic and Social Affairs, Development Administration: Current Approaches and Trends in Public Administration for Development. New York, UN, 1975.

प्रश्नपत्र का प्रश्नानुसार विशेषण एवं प्रारूप
हिन्दी पाठ्यक्रम (ग्यारहवीं)

पूर्णांक – 80

आंतरिक मूल्यांकन – 20

समयाब्धि : 3 घंटे

क्र. सं.	प्रश्नों के प्रारूप	दक्षता परीक्षण / अधिगम परिणाम	1 अंक	2 अंक	3 अंक	4 अंक	5 अंक	6 अंक	7 अंक	8 अंक	9 अंक	10 अंक	11 अंक	12 अंक	कुल
1	अपठित बोध गद्य(10)	ज्ञान विषयक बोध-अर्थ ग्रहण, विशेषण, शब्द ज्ञान, मौलिकता, सृजनात्मकता आदि (बहुविकल्पीय प्रश्न-02, रिक्त स्थान-02, सही-गलत - 02, अतिलघु उत्तरापेक्षी-02, वस्तुनिष्ठ- 02)	10												10
2	व्याकरण एवं रचनात्मक लेखन	स्मृद्ध शब्दावली, वर्तनी, भाषा प्रवाह, शैली अभिव्यक्ति की सृजनात्मकता, तार्किकता आदि। प्रतिवेदन, वर्गीकृत विज्ञापन, पत्र लेखन (औपचारिकता) शत प्रतिशत विकल्प के साथ दीर्घ उत्तरापेक्षी प्रश्न पूछा जाएगा।		05			01								15
3.	हिन्दी साहित्य का इतिहास	आदिकाल, भक्तिकाल, रीतिकाल (नामकरण, पृष्ठभुमि (परिचयितिवां-धार्मिक, सामाजिक, राजनीतिक, आर्थिक तथा सांस्कृतिक), प्रवृत्तियां (विशेषताएँ)	4	01			01								11
4.	पद्य गण (अनुगूँज) गद्य भाग	भाव विचार कल्पना, शैली, अर्थग्रहण विशेषण, कार्य कारण सम्बन्ध, काव्य परम्पराओं का मूल्यांकण, संस्कृति, जीवन मूल्य, मौलिकता, सृजनात्मकता आदि।	04 04	03 04		02 01									23 21

हिन्दी - ग्यारहवीं

आंतरिक मूल्यांकन (Internal Assessment)

20 अंक

विवरण :-

पाठ्यक्रम में आए रचनाकारों के कृतित्व के अन्य पहलुओं से संबंधित प्रायोजना कार्य दिया जा सकता है।

अथवा

पाठ्यक्रम की रचनाओं से संबंधित अन्य रचनाओं पर सामग्री एकत्रित करने सम्बन्धी कार्य दिया जा सकता है। उदाहरण के लिए 'रामधारी सिंह दिनकर' की किसी वीर रस की कविता पर कार्य दिया जा सकता है। यह प्रायोजना कार्य **10** अंक का होगा। यह कार्य हिन्दी साहित्येतिहास से संबंधित भी हो सकता है।

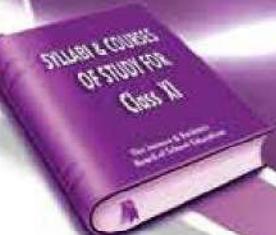
2. पूरे पाठ्यक्रम अथवा चुनिंदा पाठ्यक्रम के आधार पर छात्रों की मौखिक परीक्षा (VIVA) ली जा सकती है, जिसमें विषय ज्ञान के साथ-साथ वाचन क्षमताएँ (speaking skills) परखी जा सकती है। यह VIVA **5** अंक का होगा।

3. शिक्षक अपनी इच्छानुसार पाठ्यक्रम के किन्हीं विषयों से संबंधित महत्वपूर्ण अपेक्षित प्रश्नों पर लिखित परीक्षा रख सकते हैं। इससे छात्रों की लेखन कुशलता की परख होगी और पाठ्यक्रम के महत्वपूर्ण बिंदुओं की तैयारी भी होगी। इसमें हिन्दी साहित्य के इतिहास पर बल दिया जा सकता है। यह कार्य **5** अंक का होगा।

आंतरिक मूल्यांकन की अंक योजना

- प्रायोजना कार्य - **10** अंक
- मौखिक परीक्षा – **5** अंक
- लिखित परीक्षा – **5** अंक

कुल योग - **20** अंक

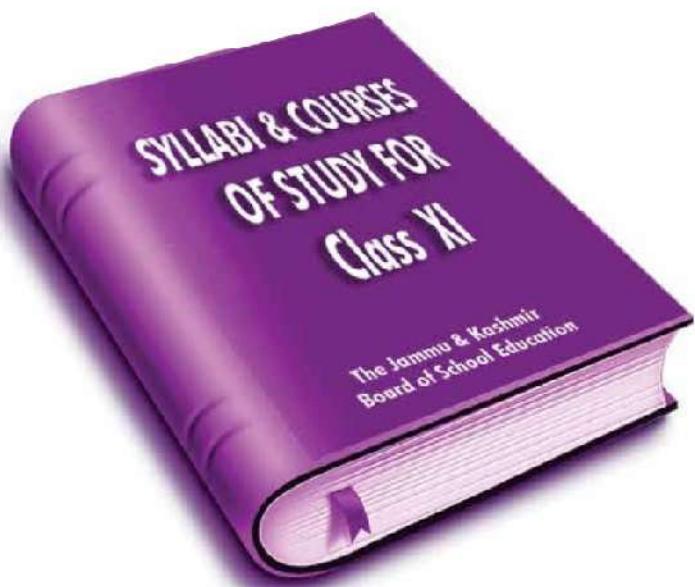


निर्धारित पुस्तक – अनुगूँज

पाठ्यक्रमोपयोगी सहायक पुस्तकें:-

1. मानक हिन्दी व्याकरण
2. सुबोध हिन्दी व्याकरण
3. हिन्दी साहित्य का इतिहास – डॉ. नगेन्द्र
4. हिन्दी साहित्य : युग और प्रवृत्तियाँ – शिवकुमार शर्मा
5. हिन्दी साहित्य का संक्षिप्त इतिहास – डॉ मधु धवन





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