

MATHEMATICS

The present revised syllabus in Mathematics has been assigned in accordance with NCF 2005 and as per guidelines given in the focus group on teaching of Mathematics which is to meet the needs of all students of different categories. The subject of Mathematics has undergone changes from time to time in accordance with the growth of the subject and the need of the society which led to motivate the topics from day to day problems so that a greater emphasis has been laid on the application of various concepts. The Curriculum at secondary stage emphasizes on the capacity to the study to enjoy it and employ Mathematics in solving real life problems. It has been designed in such a manner that maintains the continuity of a concept and its applications in the further classes. The proposed curriculum includes the study of number systems, algebra, geometry, Trigonometry, Mensuration, Statistics, Graphs and Coordinate geometry etc.

AIMS and Objectives

The following are the aims that describe the educational purpose of a course in Mathematics at the Secondary Stage to enable students to:-

1. Develop their mathematical knowledge and skills in a way which encourages confidence and provides satisfaction and enjoyment;
2. Read Mathematics and write and talk about the subject in a variety of ways;
3. Develop a feel for numbers, carry out calculations and understand the significance of the results obtained;
4. Apply Mathematics in everyday situations and develop an understanding of the part which Mathematics plays in the world around them;
5. Solve problems, present solutions clearly, check and interpret the results;
6. Develop an understanding of Mathematical principles;
7. Recognize when and how a situation may be represented mathematically, identify and interpret relevant factors and where necessary, select an appropriate Mathematical method to solve the problem;
8. Use Mathematics as a means of communication with emphasis on the use of clear expression;
9. Develop an ability to apply Mathematics in other subjects, particularly science;
10. Develop abilities to reason logically, to classify, to generalize and to prove;

11. Appreciate patterns and relationships in Mathematics;
12. Produce and appreciate imaginative and creative work arising from mathematical ideas;
13. Develop their Mathematical abilities by considering problems and conducting individual and cooperative enquiry and experiment, including extended places of work of practical and investigative nature;
14. Appreciate the interdependence of different branches of Mathematics;
15. Acquire a foundation appropriate to their further study of Mathematics and of other disciplines.

Objectives: The teaching and learning of mathematics at Secondary stage should enable the pupil to consolidate the mathematical knowledge and skills acquired at the upper Primary stage to:-

- Acquire knowledge and understanding of the terms, symbols concepts, principles, process, proofs etc. pertaining to secondary stage.
- Develop master of basic algebraic skills;
- Develop drawing skills;
- Apply mathematical knowledge and skills to solve real life mathematical problems, by developing abilities to analyse, to see interrelationship involved, to think and reason;
- Develop the ability to articulate logically;
- Develop skill in the use of mathematical tables as aids for computational work.
- Develop ability to write/interpret logarithms for problem solving;
- Develop necessary skill to work with modern technological devices such as calculators, computers, etc. where available and develop understanding of the cause effects relationships and the interplay of variables;
- Develop interest in mathematics and participate in mathematical competitions and other mathematics club activities in the school;
- Develop appreciation for mathematics as a problem- solving tool in various fields for its beautiful structures and patterns etc., and
- Develop reverence and respect towards great mathematicians particularly towards the Indian mathematicians for their contributions to the fields of mathematics, astronomy etc.

DOMAINS

The abilities to be assessed in Secondary School Examination shall cover a single domain.

Techniques with application

The Examination will test the ability of the students to:

1. Organize, interpret and present information accurately in written, tabular, graphical and diagrammatic forms.
2. Perform calculation by suitable methods.
3. Understand system of measurement in everyday use and make use of them in the solution of problems.
4. Estimate, approximate and work to degree of accuracy appropriate to the content.
5. Use Mathematical and other instruments to measure and to draw an acceptable degree of accuracy;
6. Interpret, transform and make appropriate use of Mathematical statements expressed in words or symbols.
7. Recognize and use spatial relationships in two dimensions, particularly in solving problems.
8. Recall, apply and interpret Mathematical knowledge in the context of everyday situations.
9. Make logical deductions from a given Mathematical data.
10. Recognize patterns and structure in a variety of situations and form generalizations.
11. Analyze a problem, select a suitable strategy and apply an appropriate technique to obtain its solution.
12. Apply combination of mathematical skills and techniques in solving problems.
13. Set out a mathematical work, including the solution of problems in a logical and clear form using appropriate symbols and terminology.

$$(x - y)^3 = x^3 - y^3$$

$$x^3 + y^3 + z^3 - 3xyz = (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)$$

and their use in factorization of polynomials, Simple expressions reducible to these polynomials.

Unit III

Coordinate Geometry

Marks 08

The Cartesian plane, Coordinates of a point, names and terms associated with co-ordinate plane (x -axis, y- axis, origin, components of a point, Quadrants), plotting points in the plane, graph of a linear equations as examples; focus on linear equations of the type $ax + by + c = 0$ by writing it as $y = mx + c$ and linking it with chapter on linear equations in two variables.

Unit IV

Linear equation in two variables:

Marks 10

Recall of linear equations in one variable. Introduction to the equation in two variables. Prove that a linear equation in two variables has infinitely many solutions and justify their being written as ordered pairs of real numbers, plotting them and showing that they seem to lie on a line. Examples, problems from real life, including problems on ratio and proportion and with algebraic and graphical solution being done simultaneously.

Unit V

Marks 12

Lines and Angles

Introduction to Euclid's Geometry, the five postulates of Euclid, Equivalent version of the fifth postulate, Relationship between Axiom and theorem.

1. Given two distinct points, there exists one and only one line through them.
2. Two distinct lines can not have more than one point in common.
3. If a ray stands on a line, then the sum of two adjacent angles so formed is 180 degree and the converse.
4. If two lines intersect, the vertically opposite angles are equal.
5. Results on corresponding angles, alternate angles, interior angles when a transversal intersects two parallel lines.
6. Lines which are parallel to a given line are parallel.
7. The sum of the angles of a triangle is 180 degree.
8. If the side of a triangle is produced, the exterior angle so formed is equal to the sum of the two interior opposite angles.

Unit VI.

Marks 20

Triangles:

1. Two triangles are congruent if any two sides and the included angle of one triangle is equal to corresponding two sides and their included angle of the other triangles (S.A.S Congruency).
2. Two triangles are congruent if any two angles and the included side of one triangle is equal to two corresponding angles and the included side of the other triangle (ASA Congruency).

3. Two triangles are congruent if the three sides of one triangle are equal to three corresponding sides of the other triangles (SSS Congruency).
4. Two right triangles are congruent if the hypotenuse and any sides of one triangles is equal to the hypotenuse and the corresponding sides of the other triangle (RHS Congruency).
5. Angles opposite to equal sides of a triangle are equal.
6. Sides opposite to equal angles of a triangle are equal.
7. Triangle inequalities and relation between angle and facing side; inequalities in a triangle.

Unit VII

Marks 10

Constructions

1. Construction of bisectors of a line segment and angle , 60, 90, 45, angles etc.
- 2, Construction of equilateral triangles.
3. Construction of a triangle given its base, sum/difference of the other two sides and one base angle.
4. Construction of a triangle of given perimeter and base angles.

ASSESSMENT OF FIRST TERM COURSE

The First Term course shall carry a weightage of 100 marks. The performance of students during the First Term shall be assessed through 02 Unit tests each of 20 marks and a Term Test of 60 marks. The Unit and Term tests (s) are to be given as per the scheme of Continuous and Comprehensive Evaluation introduced by the Board at the Secondary Stage.

TERM II

Unit VIII	Logarithm	15 marks
Unit IX	Quadrilaterals	15 marks
Unit X	Area of parallelograms & Traingles	10 marks
Unit XI	Circles	25 marks
Unit XII	Mensuration	20 marks
Unit XII	Statistics	15 marks

Unit VIII.

Logarithms:

Marks 15

Definition, Laws of logarithms i e

where $a > 0$, $a \neq 1$, Logarithms to Base 10, Standard form of decimal, Characteristics and Mantissa, finding N where $\log N$ is given. Use of Logarithms in simple Numerical problems.

Unit IX

Marks 15

Quadrilateral

1. Diagonal divides a parallelogram into two congruent triangles.
2. In a parallelogram opposite sides are equal and conversely.
3. In a parallelogram opposite angles are equal and conversely
4. A quadrilateral is a parallelogram if a pair of its opposite sides is equal and parallel.
5. In a parallelogram, the diagonals bisect each other and conversely.
6. In a triangle the line segment joining the mid points of any two sides is parallel to the third side and its converse.

Uni X

Marks 10

Area:

Review, concept of area, recall area of a rectangle.

1. Parallelograms on the same base and between the same parallels have the same area.
2. Triangles on the same base and between the same parallels have the same area and its converse.

Unit XI

25 marks

Circles: Definition of circles (with examples).radius, circumference, diameter, chord, arc, subtended angle.

1. Equal chords of a circle subtend equal angles at the centre and its converse.
2. The perpendicular from the centre of a circle to a chord bisects the chord and conversely.
3. There is one and only one circle passing through three given non-collinear points
4. Equal chords of a circle (or of congruent circles) are equidistant from the centre(s) and conversely.
5. The angle subtended by an arc at the centre is double the angle subtended by it any point on the remaining part of the circle.
6. Angles in the same segment of a circle are equal.
7. if a line segment joining two points subtends equal angles at two other points lying on the same side of the line containing the segment, the four points lie on a circle.
8. Sum of the either pair of the opposite angles of a cyclic quadrilateral is 180 degree and its converse.

Unit XII

Marks 20

Mensuration

1. Area of triangle using Herons's formula (without proof) and its application in finding the area of a Quadrilateral
2. Surface area and volumes.
Surface areas and volumes of cubes, cuboids, Spheres (including hemispheres) and right circular cylinders/ cones.

Unit XIII.

Marks 15

Statistics

Introduction to statistics, collection of data, presentation of data, tabular form, ungrouped , grouped , bar graphs, histogram (with varying base lengths) frequency polygons, qualitative analysis of data to choose the correct form of presentation for the collected data, Mean (Arithmetic mean) , Median, Mode of ungrouped data.

Assessment of IInd Term Course

The assessment of IInd Term shall be made through one Unit test of 20 marks and a Term Test of 80 marks as envisaged in the Continuous and Comprehensive Evaluation Scheme introduced by the Board at Secondary Stage.

Book Prescribed:

Mathematics: - A Text Book for Class IX published by Jammu and Kashmir State Board of School Education.

COURSE WORK (Assessment/Project Work)

The course work component has been designed to provide schools with an alternative means of assessment of those objectives as lend themselves to testing by means other than timed written paper. The course work is intended to provide a framework for developing an ability to solve problems for encouraging investigation activities. The course work component allows particular emphasis on objectives, which are difficult to test in timed written papers.

Procedure

1. Every Student should at least submit one project and one investigation report to be assessed by the teachers each term.
2. Course work shall involve 15 hours work. The class time should be allocated accordingly so that the teacher is able to monitor student's work.
3. The course work will be assessed in grades to be reflected in the certificate of achievement to be issued by the school as laid down by the Board under Continuous and Comprehensive Evaluation Scheme.
4. **Suggested Topics**
 - (i) Finding area of classroom, school campus and making a project indicating cost of fencing/walling, etc.
 - (ii) Representing statistical data graphically.
 - (iii) Scale drawing, maps/model making, etc.
 - (iv) Working of a Computer.

Types of questions to be set :

First Term

60 marks

- | | | |
|----|---------------------------------------------------------|-------------------|
| 1. | Two 8 marks questions with internal and parallel choice | $2 \times 8 = 16$ |
| 2. | Four 5 marks questions with internal & parallel choice | $4 \times 5 = 20$ |
| 3. | Six 3 marks questions | $6 \times 3 = 18$ |
| 4. | Six 1 marks questions | $6 \times 1 = 6$ |

Second Term

80 marks

- | | | |
|----|---------------------------------------------------------|-------------------|
| 1. | Three 8 marks questions with internal & parallel choice | $3 \times 8 = 24$ |
| 2. | Five 5 marks questions with internal & parallel Choice | $5 \times 5 = 25$ |
| 3. | Eight 3 marks questions | $8 \times 3 = 24$ |
| 4. | Seven 1 mark questions | $7 \times 1 = 7$ |

Note:

1. The students can use simple electronic calculators. Electronic calculators having exponential and trigonometric functions shall not be allowed.
2. Trigonometrical /Log tables, if required, be provided to the students. No other Mathematical or Statistical table will be allowed to be used.

SOCIAL SCIENCE

The Social Science Course is an amalgam of the subjects, *History, Civics and Geography* at the Secondary Stage (classes IX-X).

Weightage to these different subjects is given below:-

(i)	History	:	80 Marks
(ii)	Civics	:	40 Marks
(iii)	Geography	:	80 Marks

HISTORY

AIMS :

1. To arouse interest and enthusiasm for the study of the past.
2. To promote the acquisition of knowledge and understanding of human activity in the past, linking it, as appropriate, with present.
3. To ensure that candidate's knowledge is rooted in an understanding of the nature and use of historical evidence/s.
4. To help towards an understanding of the development, over time of social and cultural values.
5. To promote understanding of the nature of cause and consequence, continuity and change, similarity and difference.
6. To promote understanding of these aspects of Indian historical development which are necessary to know and understand.

DOMAINS :

(Assessment Objectives)

Students should be able to:

1. recall, select and use relevant knowledge and communicate it in a coherent form.
2. to demonstrate understanding of historical terminology and concept/(cause and consequence, change and continuity, similarity and difference).
3. to interpret and evaluate a wide range of historical sources and their use as evidence viz.
 - (i) To comprehend
 - (ii) To locate and extract relevant information.
 - (iii) To distinguish between fact, opinion and judgment.
 - (iv) To indicate deficiencies, such as gaps and inconsistencies.
 - (v) To detect bias.
 - (vi) To compare and contrast range of sources and to reach conclusions based upon their use as evidence.

CIVICS

AIMS :

1. To promote desire to participate in community affairs;
2. To understand a critical awareness of social, economic and political arrangements and their effects.

DOMAINS :

Candidates should be able to:

1. **Demonstrate knowledge and understanding of**
 - (a) factual information
 - (b) concepts and terminology
2. **Demonstrate the ability to**
 - (a) understand and apply concept/s
 - (b) distinguish between facts and values and identify slanted values and bias.
3. **Demonstrate the ability of present explanations, ideas and arguments in a coherent, logical and balanced form.**

GEOGRAPHY

AIMS :

The aims are to encourage students to develop:

1. a sense of place and an understanding of relative location on a local, regional and global scale.
2. an awareness of the characteristics and distribution of a selection of contrasting physical and human environments.
3. an understanding of some of the processes affecting the development of such environments.
4. an understanding of the special effects of the ways in which people interact with each other and with their environments.
5. an understanding of different communities and cultures throughout the world and an awareness of the contrasting opportunities and constraints presented by different environments.

DOMAINS:

The four domains in Geography are:

- A. Knowledge with understanding
- B. Analysis
- C. Judgment and decision making.
- D. Investigation (enquiry skills, practical skills and presentation skills).

A description of each domain follows:

A. Knowledge with understanding:

Students should be able to demonstrate an understanding of:

1. The wide range of processes, including human actions, contributing to the development of:
 - (a) Physical, economic, social, political and cultural environments and their associated effects on the landscapes.
 - (b) Special patterns and interactions which are important within such environments.
2. The inter-relationships between people's activities, the total environment, and an ability to seek explanations for them.
3. The importance of scale (whether local, regional or global) and the time at which special distributions and the working of systems are considered.
4. The changes which occur through time in places, landscapes and special distribution.

B. Analysis:

Students should be able to :

1. Select, organize, present and interpret geographical data.
2. Use and apply geographical knowledge and understanding on verbal numerical, diagrammatic, pictorial and graphical form.
3. Use geographical data to recognize patterns in such data and to deduce relationships.

C. Judgment and Decision making:

- I. Through their geographical training students should be able to reason, make judgements (including evaluation and conclusions) which demonstrate where appropriate:
 1. A sensitivity and a concern for landscape and the environment.
 2. An aesthetic appreciation of the earth including its people, places, landscapes, natural processes and phenomena.
 3. An appreciation of the attitudes, values and beliefs of others in cultural, economic, environmental, political and social issues which have geographical dimensions.
 4. An awareness of the contrasting opportunities and constraints of people living in different places and under different physical and human conditions.
 5. A willingness to review their own attitudes.

- II. Recognize the role of decision making within a geographical context as affected by:
1. the physical and human context in which decisions are made.
 2. the values and perceptions of groups of individuals.
 3. the choices available to decision making and the influences and constraints within which they operate.
 4. Investigations (Enquiry, practical and presentation skills).
- III. Students will be expected to demonstrate the ability to:
Select and use suitable basic techniques for observing, collecting, classifying.

HISTORY

1st Term Course

40 Marks

Units	Marks
I. Pre-History	14
II. Bronze age	09
III Iron age	09
IV Religions	08

1ST TERM COURSE

SECTION I (HISTORY)

40 Marks

Unit I : Pre-History

14 Marks

- 1. Archaeology as a source of history**
- 2. Paleolithic Age:-**
 - (i) Tools
 - (ii) Beginning of community life and art.
- 3. Neolithic Age:-**
 - (i) Improvements in tools
 - (ii) Beginning of farming.
 - (iii) Settled life.
 - (iv) Mixed farming.
 - (v) Pottery and invention of wheel.
 - (vi) Spinning and weaving
 - (vii) Religious Beliefs.

Unit II : Bronze Age:- **09 Marks**

- (i) Use of Metals.
- (ii) Mesopotamian Civilization, Main features of any two Civilizations
- (iii) Egyptian Civilization.
- (iv) Harappan Civilization.

Unit III : Iron age **09 Marks**

- (i) Chinese Civilization
- (ii) Iranian Civilization Main features of any two Civilizations
- (iii) Greek Civilization
- (iv) Roman Civilization

Unit IV : Religions : **08 Marks**

- (i) Hinduism
- (ii) Jainism.
- (iii) Buddhism
- (iv) Judaism.
- (v) Christianity.

SECTION II (CIVICS)

20 Marks

Unit 1 : Society **6 Marks**

- 1.1 Society and its types
- 1.2 Industrial Revolution and Industrialization. Evils of Industrialization
- 1.3 Colonialism and the British Rule in India
- 1.4 Social organization and neighborhood.

Unit 2 : Citizens **6 Marks**

- 2.1. Definition of Citizen and Citizenship
- 2.2. End of Autocracy
- 2.3. Functions of the Government and its organs
- 2.4. Rights and duties.

Unit 3 : The Indian Constitution **8 Marks**

- 3.1. Meaning of constitution
- 3.2. Parliamentary and Presidential forms of Government
- 3.3. Unitary and Federal Government.

SECTION III (GEOGRAPHY)

COURSE FOR FIRST TERM

Marks : 40

- A. Our Country India : Location and size, India and the World, India's Neighbour, (with special reference to J&K State) **08 Marks**
- B. Relief, Major Physiographic divisions, The Great Mountains of the North, The North Plains, The Peninsular Plateau, The Central Highlands, The Deccan Plateau, The Coastal Plains, The Islands, Physical Division of J&K State. **10 Marks**
- C. Climate, Climatic factors, the locational and relief factors, pressure and winds, upper air circulation the Indian monsoon, annual cycle of seasons, the cold weather season, the hot weather season, advancing Monsoons, the seasons of rains, retreating monsoon, distribution of precipitation, monsoons as a unifying bond. (Climatic reference of J&K State). **12 Marks**
- D. Drainage, Drainage system, the Indus system, the Ganga system, the Brahmaputra system, lakes and inland drainage and rivers, the lifelines of Human Civilization, Pollution of rivers. (Special reference to Water bodies of J&K). **10 Marks**

Project/Activity To be performed under CCE Scheme by assigning grades.

Major landform features of the locality and its influence on social features, i.e. transport, communication and settlement. Activity is to be accompanied by a brief report.

Assessment of First Term Course

The First Term course shall carry a weightage of 100 marks. The performance of students during the First Term course shall be assessed through 02 Unit tests, each of 20 marks and a Term test of 60 marks . The Unit and Term test(s) are to be given as per the scheme of Continuous and Comprehensive evaluation, introduced by the Board.

SECTION I

HISTORY

2nd Term	100 Marks
Section I	40 Marks
Section II	20 Marks
Section III	40 Marks

2ND TERM COURSE

40 Marks

Units	Marks
V. The Medieval World	16
VI. Beginning of the Modern Age	14
VII Machine Age	10

SECTION I (HISTORY)

Marks : 40

Unit V : The Medieval World

16 Marks

1. Europe and the Feudal system
2. Rise of Islam, Arab contribution to World Civilization, with special reference to science and learning.
3. Spread of Islam in India.
4. Indian society, culture and economy from 600 to 1750 A.D.
 - (i) Crafts.
 - (ii) Architecture
 - (iii) Sufi and Bhakti movement

Unit VI : Beginning of the Modern Age:

14 Marks

1. Renaissance of the Modern Age:
2. Reformation.
3. Exploration, Discovery and Trade.
4. Rise and growth of Nation States.
5. The glorious Revolution of 1688.
6. Struggle against Absolutism.

Unit VII : Machine Age

10 Marks

1. Industrial Revolution in England.
2. Consequences of the Industrial Revolution.

SECTION II (CIVICS)

Marks : 20

Unit 4 : Central Government

08 Marks

- 4.1. Parliament
- 4.2. The Central Executive
- 4.3. Executive, Legislative, Financial, Judicial, Emergency powers of the President.
- 4.4. Prime Minister and the organization of the Central Ministry.
- 4.5. The Supreme Court

Unit 5 : The State Government

06 Marks

- 5.1 The State Executive.
- 5.2 President's rule in the State
- 5.3 Legislatures and Judiciary of the State
- 5.4 Local Government in cities, towns and villages.

Unit 6 : Local Government

06 Marks

- 6.1. District Administration.
- 6.2. Local Government.
- 6.3. Local Government in cities.
- 6.4. Local Government in villages, Panchayati Raj.

SECTION III (GEOGRAPHY)

40 Marks

- Natural vegetation and wild life, Ecosystem, Biomass. Vegetation types, Tropical rain forests, Tropical deciduous forests, the thorn forests and shrubs, Temperate forests with grasslands, alpine and thunder vegetation, wildlife, Conserving bio-diversity. (Vegetation and other creatures of J&K State).

15 Marks

- Population, The census, distribution of population, sex ratio, age composition, occupational structure, literacy, health adolescent population, National population policy (with special reference to J&K State).

15 Marks

PROJECT /ACTIVITY**10 Marks**

**River Pollution, Rainfall Harvesting,
Depletion of forests and Global warming/soil erosion
Why is our crop decreasing?**

Assessment of Second Term course

The assessment of Second Term course shall be made through one Unit test of 20 marks and a Term test of 80 marks as envisaged in the Continuous and Comprehensive Evaluation Scheme, introduced by the Board.

Course Work

Every regular student shall be required to produce two pieces of course work, one in History & Civics and one in Geography for each Term. The topic, theme for each such work will be selected from the syllabus contents to produce an essay/a report of about 500-800 words to be assessed in grades.

Allocation of marks for Unit/Term Test(s)

Each Term shall be tested for 100 marks separately. Details of weightage assigned to different types of questions is given below:

FIRST TERM	100 Marks
Ist Unit Test	20 Marks
I. History	08 Marks
II. Geography	08 Marks
III. Civics	04 Marks
Second Unit Test:	20 Marks
I. History	08 Marks
II. Geography	08 Marks
III. Civics	04 Marks
First Term Test:	60 Marks
I. History	24 Marks
II. Geography	24 Marks
III. Civics	12 Marks

Type of questions to be set in History

Two 05 marks long answer questions with internal and parallel choice	=	2×5= 10 marks
Three 03 marks short answer questions	=	3×3= 09 marks
Three 01 marks very short answer questions	=	3×1= 3 marks
Two 01 mark objective questions	=	2×1= 2 marks

Same type of questions will be set in Geography as in History

Type of questions to be set in Civics

One 05 marks long answer question with internal and parallel choice	=	1×5= 05 marks
One 03 marks short answer questions	=	1×3= 03 marks
Two 01 mark very short answer questions	=	2×1= 02 marks
Two 01 mark objective questions	=	2×1= 02 marks

SECOND TERM

MARKS: 100

3rd Unit Test

20 Marks

I. History	08 Marks
II. Geography	08 Marks
III. Civics	04 Marks

II Term Test:

80 Marks

I. History	32 Marks
II. Geography	32 Marks
III. Civics	16 Marks

Type of questions to be set in History

Two 05 marks long answer question	=	2×5 = 10 marks
Five 03 marks short answer questions	=	5×3 = 15 marks
Four 01 mark very short answer questions	=	4×1 = 4 marks
Three 01 mark objective questions	=	3×1 = 3 marks

Same type of questions will be set in Geography as in History

Type of questions to be set in Civics

One 05 marks long answer question with Internal and parallel choice	=	1 × 5 = 05 marks
Two 03 marks short answer questions	=	2 × 3 = 06 marks
Three 01 mark very short answer questions	=	3 × 1 = 03 marks
Two 01 mark objective questions	=	2 × 1 = 02 marks

Books prescribed:

1. Story of Civilization Vol-I.
2. We and our Government.
3. Geography for Class IX.

Published by :The J&K State Board of School Education.

SCIENCE

Science plays an important role in developing in children well defined abilities in cognitive, affective and psychomotor domains, it augments the spirit of enquiry, objectivity, aesthetic sensibility.

Whereas the upper primary stage demands that plentiful opportunities should be provided to the students to engage them with the processes of Science like, observing, recording observations, drawing, tabulation, plotting graphs etc., the secondary stage expects abstraction and quantitative reasoning to occupy more central place in the teaching and learning of Science. The present syllabus has been designed to be with “learning without burden as per recommendations of National Curriculum Framework, (NCF- 2005), and has been framed around six broad themes viz Food Materials, The World of living, How things work, People and Ideas, Natural phenomena and Natural Resources.

In the present syllabus, no attempt has been made to be comprehensive. Unnecessary enumeration has been avoided. Special care has been taken to avoid temptation of adding too many concepts.

At the secondary stage when Science is still a common subject, the disciplines of physics, chemistry and life science come into being and the learner should be exposed to experience as well as modes of reasoning that are typical of these subjects. The stage also sees a certain consolidation of knowledge within themes.

AIMS :

The aims are to:

1. Provide, through well designed studies of the experimental and practical science, a worthwhile educational experience for all students, whether or not they intend to go on to study science beyond the secondary stage and in particular, to enable them to acquire sufficient understanding and knowledge to:
 - 1.1 become confident citizens in a technological world and to take or develop an informed interest in matters of scientific importance.
 - 1.2 recognize the usefulness, and limitations of scientific method and to appreciate its applicability in other disciplines and in everyday life.
 - 1.3 be suitably prepared for studies beyond the secondary stage in pure sciences, in applied sciences or in science- dependent courses.

2. **Develop abilities and skills that:**

- 2.1 are relevant to the study and practice of science
- 2.2 are useful in everyday life
- 2.3 encourage efficient and safe practice
- 2.4 encourage effective communication.

3. **Develop attitudes relevant to science such as:**

- 3.1 Concern for accuracy and precision
- 3.2 Objectivity
- 3.3 Integrity
- 3.4 Enquiry
- 3.5 Initiative
- 3.6 Inventiveness.

4. **Stimulate interest in and care for the environment**

5. **Promote awareness that:**

- 5.1 Scientific theories and methods have developed, and continue to do so, as a result of cooperative activities of groups and individuals.
- 5.2 The study and practice of science is subject to social, economic, technological, ethical and cultural influences and limitations.
- 5.3 The applications of science may be both beneficial and detrimental to the individual, the community and the environment.
- 5.4 Science transcends national boundaries and that the language of science, correctly and rigorously applied, is universal.

DOMAINS :

The three domains in Science (Physics, Chemistry and Life-Sciences) are:

- A. Knowledge with understanding
- B. Handling information and solving problems
- C. Experimental skills and investigations.

Description of each domain is given below:

A. Knowledge with understanding

Students should be able to demonstrate knowledge and understanding in relation to:

1. Scientific phenomena, facts, laws, definitions, concepts, theories
2. Scientific vocabulary, terminology, conventions including symbols, quantities and units).
3. Scientific instruments and apparatus, including techniques of operations and aspects of safety.
4. Scientific quantities and their determination
5. Scientific and technological application with their social, economic and environmental implications.

B. Handling information and solving problems

Students should be able in words or using other written forms of presentation (i.e. Symbolic, graphical and numerical) to:

1. Locate, select, organize and present information from a variety of sources.
2. Translate information from one to the other.
3. Manipulate numerical and other data.
4. Use information to identify patterns, report trends and draw inferences.
5. Present reasoned explanations for phenomena, patterns and relationship.
6. Make predictions and hypotheses.
7. Solve problems

C. Experimental skills and Investigations

Students should be able to:-

1. Use techniques, apparatus and materials (including the following of a sequence of instructions where appropriate).
2. make and record observations, measurements and estimates.
3. interpret and evaluate experimental observations and data.
4. plan investigations and /or evaluate methods and suggest possible improvements including the selection of techniques, apparatus and materials).

COURSE STRUCTURE

Marks : 200

Science-I (Physics)

Theory	50 Marks
Practical	18 Marks

Science – I (Chemistry)

Theory	50 Marks
Practical	16 Marks

Science- II (Life Science)

Theory	50 Marks
Practical	16 Marks

DETAILED SYLLABUS

TERM - I

SCIENCE –I (PHYSICS)

Theory: - 25 Marks

Practical: - 9 Marks

Unit- I:- Motion

10 marks/12 periods

Motion is relative, need of origin (reference point) for describing position of an object, Distance and displacement, uniform and non uniform motion along a straight line, speed, velocity and acceleration, distance-time and velocity-time graphs for uniform and uniformly accelerated motion, equations of motion by graphical method:-

(i) $v=u+at$, (ii) $S= ut+at^2$ (iii) $v^2-u^2=2as$,

Elementary idea of uniform circular motion

Unit II: - Force and Laws of motion

08 marks/10 periods

Force and its relation to motion, balanced and unbalanced forces, concept of inertia and its relation with mass, Newton's Laws of motion, momentum, Force and acceleration, Elementary idea of conservation of momentum, Action and reaction forces

Unit III:-Work, Energy and power**07marks/08 periods**

Scientific concept of work, work done by constant force, concept of positive and negative work, energy and its various forms, potential and Kinetic energy, Law of conservation of energy. Definition of Power and its units.

PRACTICAL**Physics****09 Marks****I Term**

1. To plot a distance- time graph from a given data and calculate speed from it.
2. To plot a velocity time graph from a given data and calculate acceleration from it.
3. To measure the temperature of hot water as it cools and plot a temperature-time graph.
4. To demonstrate
 - (i) Equal and opposite forces
 - (ii) Work done in lifting a weight
 - (iii) Work done by a moving body
 - (iv) Work done by a compressed Spring on a raised body

Note: Each student will perform at least three practicals in each term.

Suggested areas for Assignment/Project work**I Term**

1. To study the motion of a body along an inclined plane.
2. To calculate the work done by a force using a simple toy cart.

Note: Each student needs to work on one assignment in each term. **Note:** Each student will

SCIENCE-I (CHEMISTRY)**TERM I*****Theory : 25 Marks******Practical :8 Marks*****Unit-I : Matter in our Surrounding****10 Marks/Periods:12**

Physical Nature of Matter. Characteristics of Particles of Nature.

States of Matter (Solid, Liquid and Gaseous).

Can we bring about a change in the state of matter?.

Evaporation.

A Brief introduction about two more states of matter- Plasma and Bose- Eanstein condensate. (Non-Evaluative).

Unit II: Is Matter around us Pure.**15 Marks/Periods: 8**

Mixture and its types. Solution and its properties.

Concentration of a solution and how it is expressed.

Colloidal solution and its properties. Suspension and its properties.

Separating the Components of a mixture by different methods:- Evaporation, Centrifugation,

By using separating funnel, Sublimation, Simple distillation, Fractional, distillation,

Chromatography, Separation of components of Air.

Physical and Chemical changes. Types of Pure substances (Elements and Compounds)

Difference between a Compound and a Mixture.

PRACTICAL**Chemistry****Marks 08****TERM I**

1. To separate the contents of a mixture
 - (i) by sublimation
 - (ii) by crystallization
 - (iii) with the help of a separating funnel

2. To carry out the following processes, record observations and classify them into Physical and chemical changes
 - (i) Melting of ice
 - (ii) Adding pieces of iron to Copper Sulphate solution in a beaker
 - (iii) Burning Magnesium in air
 - (iv) Dissolving common salt in water
 - (v) Adding zinc pieces to dilute Sulphuric acid

3. To Prepare
 - (i) A true solution of sugar and alum
 - (ii) A suspension of chalk powder and fine sand in water
 - (iii) A colloidal solution of starch in water and distinguish between these on the basis of
 - (a) filtration criterion and
 - (b) stability

Project work

To study the solubility of three different available substances in water at different temperatures and determine

- (i) Effect of temperature on solubility
- (ii) Magnitude of solubility at different temperatures and
- (iii) Orders of solubility

**SCIENCE-II (LIFE SCIENCE)
TERM I**

Theory : 25 Marks

Practical : 8 Marks

Unit I: - The Fundamental Unit of Life

Marks 09/14 Periods

What are Living organisms made up of? Structural organization of a cell. Plasma membrane, its relationship with Isotonic, Hypotonic and Hypertonic solution, Osmosis:

Cell wall- plasmolysis and deplasmolysis.

Nucleus-Prokaryotic and Eukaryotic cells; cytoplasm. Cell organelles- Endoplasmic Reticulum, Golgi apparatus, Lysosomes, Mitochondria, Plastids and Vacuoles.

Unit II: Tissues

Marks 08/10 periods

Types of plants and animal tissues. Meristematic, Permanent Tissue and their types, (Parenchyma, collenchyma, Sclerenchyma, Xylem and Phloem with their elements).

Animal Tissues, Epithelial tissue, connective tissue, muscular tissue, and Nervous tissue.

Unit III: Diversity in Living organisms

Marks 08/11 Periods

Basis of classification. Classification and evolution; the Hierarchy of classification groups.

Characteristics of Monera, Protista, Fungi, Plantae and Animalia.

Major groups of Plantae and Animalia, Nomenclature (Binomial).

PRACTICALS

Life Science

TERM I

08 Marks

1. To study the various parts of a Compound Microscope.
2. To Prepare and study Plant cell from Onion peel and Animal cell from cheek cells.
3. To study different types of Cells from permanent slides/charts/models of Bacterial cell, Plant cell and Animal cell.
4. To study different types of Plant Tissues from permanent slides/charts/models of Parenchyma, Arenchyma, Collenchyma, Sclerenchyma, Xylem and Phloem.
5. To study different types of Animal tissues from permanent slides/charts/models f Squamous, Cuboidal, Columnar (Ciliated), Stratified (Squamous) Epithelial tissues, Adipose tissue, Tendon, Hyaline cartilage, Erythrocytes, Leucocytes, Striated muscle, Smooth muscle, Cardiac muscle and Neuron.

PROJEC WORK/ASSIGNMENT WORK

Term I

1. Collect and preserve the specimen of Lichens, *Marchantia*, Ferns, Cacti and other plants in your locality.
2. Visit to a botanical garden/ locality and study the local flora.
3. Visit to lake/pond and study various aquatic plants.

4. Prepare culture of Algae, *Amoeba*, *Paramecium* *Euglena*.
5. Preservation of local fish varieties (*Schizothorax* and *Cyprinus caprio*).

SCIENCE - I (PHYSICS)
TERM II

Marks 25

Unit IV:-Gravitation

10marks/12 periods

Gravity and gravitation, universal law of gravitation and its importance, Acceleration due to gravity, relation between acceleration due to gravity (g) and gravitational constant (G), Difference between mass and weight, Motion of objects under the influence of gravity (use of g in equations of motion)

Unit V: Floatation

05marks/06 periods

Thrust and pressure, Buoyancy, condition of floatation, Archimedes Principle and its applications, Elementary idea of relative density and specific gravity.

Unit VI: Sound

10marks/06 periods

Nature of sound and its propagation in various media, Necessity of material medium for propagation of sound, speed of sound, reflection of sound, Echo, range of hearing in humans, infrasonic and ultrasonic sounds; Sonar; structure of human ear (auditory aspect only).

PRACTICALS

II Term

09 Marks

1. To determine the density of a solid (denser than water) by using a spring balance and a measuring cylinder.
2. To verify Archimedes Principle.
3. To verify the laws of reflection of sound.
4. To study the oscillations of a
 - (i) Simple pendulum
 - (ii) Turning fork
 - (iii) Stretched string
 - (iv) Slinky.

Note: Each student will perform at least three practicals in each term

Project/Assignment work

II Term

1. To demonstrate the phenomenon of weightlessness.
2. To study the change in frequency of a Simple pendulum due to change in length of the pendulum.

Note: Each student needs to work on one assignment in each term.

TERM II

Theory: 25 Marks

Practical: - 8Marks

Unit-III: Atoms and Molecules

Marks: 15/ Periods: 18

Laws of Chemical combination: - Law of conservation of Mass. - Law of constant Proportion.. Numerical problems on laws of Chemical combination. Atom, Atomic Mass. Molecules (Molecules of elements and molecules of compounds). Ions (simple and Polyatomic). Chemical Formulae, writing chemical formulae of simple compounds. Molecular mass and Mole concept. Formula unit mass. Numerical Problems on Mole concept.

Unit-IV: Structure of Atom

Marks: 10/ Periods 12

Charged particles of matter (Electrons and Protons). Thomson Model of atom and its drawbacks. Rutherford's Model of atom and drawbacks. Bohr's Model of atom (A Brief description). Neutral Particle of Matter (Neutron). Distribution of Electrons in various orbits (shells). Electronic concept of valency. Atomic number and Mass Number. Isotopes and Isobars.

PRACTICALS

TERM II

08 Marks

1. To experimentally prove the law of conservation of Mass.
2. To prepare a chart depicting the distribution of electrons in various orbits (shells) around the nucleus for elements with atomic no's 1 to 20 according to Bohr's Model of Atom.

Project Work

To develop a low cost model for writing Chemical Formulae.

LIFE SCIENCE TERM II

Theory: 25 marks

Practical: 08 marks

Unit IV: Why do we fall ill

Marks 09/Periods 10

Health and its failure. Disease and causes- Acute and Chronic disease; Causes of Diseases, Infectious and Non-infectious diseases. Infectious diseases- Agents; Means of spread. Organ specific and tissue specific manifestation. Principles of treatment and prevention.

Unit V: Natural Resources

Marks 08/Periods 08

Resources on Earth-Air, Air Pollution. Rain, Water, Water pollution. Mineral Riches in the soil, soil pollution. Biogeochemical cycles-water cycle, oxygen cycle, carbon cycle and Nitrogen cycle. Green House Effect, Ozone layer depletion (Brief).

Unit VI: Improvement in Food Resources

Marks 08/Periods 07

Improvement in Crop yield- variety improvement, crop production management – Nutrient Management (Micro and Macro nutrient). Manures, fertilizers; Irrigation; cropping pattern; crop protection management, Storage of grains. Animal husbandry-Cattle farming, Poultry farming, Egg and Broiler production. Fish production, Bee Keeping.

PRACTICAL

TERM II

08 Marks

6. To study permanent slides/charts/models of Amoeba, Paramecium, Spirogyra and Rhizopus.
7. Identification of Specimens- Ascaris, Earthworm, Leech, Butterfly, Octopus, Starfish, Torpedo, *Labeo rohita*, Frog, Lizard, Crow and Rat.
8. To demonstrate the Osmosis, Plasmolysis and deplasmolysis using Potato.
9. Prepare a slide of blood film showing R.B.C's and blood platelets
10. Prepare a slide of striated muscle taken from frog cockroach thighs.

Assignment/Project work

Term II

1. Obtain silk moth eggs from Sericulture Department and observe growth of Larvae, Caterpillar up to Cocoon formation.
2. Surveying neighborhoods to collect information on diseases occurrence and pattern.
3. Visit a weed infested field in the month of July or August and make a list of the weeds and insect pests in the field.
4. Make a herbarium of Cereals, Pulses, and oil seeds and identify the seasons of their sowing.
5. Collect and preserve insects like Grasshopper, Dragon flies and butterflies.

Note: At least two projects to be completed in each term, preferably one project of flora and one of fauna.

2nd Term Course

Science - I.	Physics	:	Theory: 25 Marks; Practical: 9 Marks
Science -I.	Chemistry	:	Theory: 25 Marks; Practical: 8 Marks
Science -III.	Life- Science	:	Theory: 25 Marks; Practical: 8 Marks

Assessment of performance in the First Term Course shall be based on two Unit Tests and one Term Test

Unit Test	15 Marks
1. Physics	05 Marks
2. Chemistry	05 Marks
3. Life Science	05 Marks

Unit Test-II	15 Marks
1. Physics	05 Marks
2. Chemistry	05 Marks
3. Life Science	05 Marks

First Term Test	Marks : 45
1. Physics	15 Marks
2. Chemistry	15 Marks
3. Life Science	15 Marks

Types of questions in each section :

1. Long answer (Essay type) questions with internal and parallel choice $1 \times 5 = 5$ Marks
2. Short answer questions $2 \times 3 = 6$ Marks
3. Very Short answer questions $2 \times 1 = 2$ Marks
4. Multiple choice questions $2 \times 1 = 2$ Marks

weightage to objectives:

- (i) Knowledge with Understanding = 40%
- (ii) Handling information and solving = 60%.

PRACTICALS

The performance shall be assessed through one Term test carrying 25 marks with 9 marks reserved for Physics, 8 for Chemistry and 08 for Life Science.

Assessment of performance in Second Term Course:

There shall be one Unit Test of 12 marks and Term Test of 63 marks containing three sections one each for Physics, Chemistry and Life Science. Each section shall be of 21 marks. The distribution of marks shall be:

Unit Test	Marks : 12	
Physics	04 Marks	
Chemistry	04 Marks	
Life Science	04 Marks	
Term Test	Marks : 63	
Science-I (Physics)	21 Marks	Time : 2 hours
Science-I (Chemistry)	21 Marks	
Science-II (Life Science)	21 Marks	Time: - One hour

Forms of questions in each Section :

- | | |
|----------------------------------------------------------------------------|----------------|
| (i) 2 long answer (Essay Type) questions with internal and parallel choice | 2×5 = 10 Marks |
| (ii) 2 Short answer questions | 2×3 = 6 Marks |
| (iii) 3 very short answer questions | 3×1 = 3 Marks |
| (iv) 2 MCQ (Objective) | 2×1 = 2 Marks |

II. Practicals

There shall be one practical paper of 25 marks for each Term, containing three sections one each for assessing practical skills in Physics, Chemistry and Life Science. Each section will contain 2 practical/exercises and every student shall be required to do a practical/exercise from each section. Each practical/exercise in each section, except Physics, in which each exercise shall be of 5 marks.

The experimental skills are to be assessed in the following manner:- **(05 Marks)**

- | | |
|--------------------------------------------------------------------------------------|---------|
| 1. Using and organizing techniques, apparatus and materials | 01 Mark |
| 2. Observing, measuring, recording and identifying.
(02 Marks in case of Physics) | 01 Mark |
| 3. Handling experimental observation and data (Calculation/result) | 01 Mark |
| 4. Interpretation/inferences | 01 Mark |

Note: - In case of Physics step II shall carry 02 marks.

For viva-voce question based on the practical (s) / Exercise (s) the student attempts may be asked. The questions should pertain to concepts/formulae/Principles/Procedure and precautions.

Notebook /Practical Record :- 02 Marks

Marks to be awarded on the basis of:

- (i) regularity in submitting record work,
- (ii) number of practicals recorded,
- (iii) general neatness and
- (iv) Recording experiments in a proper manner.

Total Marks: $05 + 02 + 02 = 09$ Marks, for Physics and Total marks for Chemistry and Life Science are as $:04+02+02=08$ Marks each

BOOK PRESCRIBED

“Science for class IX” Published by Jand K State Board of School Education.”

COMPUTER SCIENCE

Learning Objectives

General :

1. To familiarize with basics of information technology.
2. To develop basic skills of using tools for word processing, presentation and database management.
3. To appreciate use of IT in various domains.

Specific :

1. Cognitive domain: Knowledge and understanding to develop basic understanding of IT system operations and information accessing tools.
2. Psychomotor domain: Skills to develop skills in using tools of word processor, to manage database, to make graphs, to analyze reports using spreadsheets and to develop web pages.
3. Affective domain: Personality traits to develop the habit of teamwork and structured presentation.

COURSE STRUCTURE

Term I

Time:- One hour.

Maximum Marks	:	50
Theory	:	20 Marks
Practical	:	30 Marks
Unit I	:	IT Basics
Unit II	:	IT Tools;
		i. MS Windows
		ii. MS word

Term II

Time:- One hour.

Maximum Marks	:	50
Theory	:	20 Marks
Practical	:	30 Marks
Unit III	:	IT tools
		i. MS Power Point
		ii. MS Excel
Unit IV	:	IT Applications

Marks 20

Term I

Time :- One hour

Unit I: IT Basics

Convergence of Technologies:

Computer System : Characteristics of a computer, Basic applications of a computer, components of a computer system-Central processing Unit (CPU), Visual Display Unit (VDU), and Keyboard;

Concept of Memory Primary and Secondary : Memory, RAM and ROM, units of Memory-Byte, kilobyte, Megabyte, Gigabyte, Terabyte, Input/Output Devices; Mouse, Joy Stick, Scanner, Microphone, OCR, MICR, Light pen, Bar Code Reader, Digital Camera, Printer, Speaker, Plotter.

Storage Devices

Computer Languages: Machine Language, Assembly Language and High Level Languages, Role of Assembler and compiler.

Types of Software: System, Utility and Application software with examples

Communication Technology: Need for networking, LAN, MAN and WAN

Data Communication Device: Modern

Introduction to InternetContent: Data, Information and multimedia

Unit II: IT TOOLS

i. MS-Windows:-

Basic concept of an operating system and its functions.

Introduction to Windows: Using Mouse and moving icons on the screen, My Computer, Recycle Bin, Task Bar, Start-Menu and menu selection, running an application, setting system data and time; Windows Explorer to view files, folders and directories, creating and renaming of files and folder, opening and closing of Windows, Minimize, Restore and Maximize forms of windows , Basic components of a Window; Desktop, Frame Title Bar, Menu Bar, Status Bar, Scroll Bars (Horizontal and Vertical), Using Right button of the Mouse, Creating shortcut, BasicWindows Accessories; Notepad, Paint, Calculator, Wordpad, Using Clipboard.

ii. MS word

MS Word Introduction to a word processor, creating and saving a document, Editing and Formatting a Document; Text Style (B, I, U), Font Type Size, Changing Colour, alignment of text, Formatting paragraphs with line or paragraph spacing; adding headers and footers numbering pages, using grammar and spell check utilities, using subscript and superscript, inserting symbols, Print Preview, Printing a document.

Inserting Word Art, Clipart and pictures, pages setting, Bullets and Numbering, Borders and shading, Format Painter, Find and Replace, Inserting Tables; Inserting ,deleting-rows and columns merging cells, splitting cells, using auto format; Mail Merge

Marks 20

Term II Time:-

One hour

Unit III. i. MS Power Point

Introduction to presentation Graphics, Understanding the concept of slide shows, Basic elements of a slide, Different types of Slide Layouts, Creating and Saving Presentation, Different views of a slide; Normal view, Slide sorter view and Slide show, Editing and Formatting a slide; Adding Titles, Subtitles, Text Background, Watermark; Headers and Footers, Numbering slides; inserting Pictures from files, Animating pictures and Text with Sound Effects, Timing Textbox, Picture and Slides, Rehearse Timings, Ungrouping and Grouping pictures from Clipart.

ii. MS Excel

Introduction to spreadsheets, concept of Worksheets and Workbooks, Creating and Saving a worksheet, Working with a spreadsheet; entering numbers, text ,date/time, series using to Fill, Editing and formatting a worksheet including changing colour, size, font , alignment of text, Inserting or deleting cells, rows and columns, Formulae-Entering a formula in a cell, using operators(+ ,-,*, /) in formulae, Relative referencing, Absolute referencing and mixed referencing, printing a worksheet. Use simple Statistical functions: SUM(), AVERAGE(), MAX(), MIN(), IF() (WITHOUT COMPOUND STATEMENTS); Inserting tables in worksheet, Embedding charts of various types; Line, Pie, Scatter, Bar and Area in a Worksheet.

Unit IV : IT Applications

Students are suggested to work on the following areas using MS- Word, MS- Power Point and MS- Excel on topics implementing the tools covered in the course.

DOMAINS:

Documentation:

- Informal letter
- Formal letter
- Report Writing
- Greeting Card

Presentation :

- School Magazine
- Environment and Pollution
- Product Advertisement
- Any topic specific from text book(any subject)

Analysis Reporting

- Cricket Record
- Weather Report
- School/Class Result

Note:- Teachers are requested to demonstrate some other popular software for word processing, presentation and spreadsheet, which support Hindi and or some other Indian language(s)

PRACTICAL

Term I

One Practical Paper

Duration of Examination : 2 hours

Marks : 30

Distribution of Marks

- | | | |
|-----|-----------------------------------|----------|
| (a) | Hands on Experience (2 Exercises) | |
| | i. Windows operating System | 5 Marks |
| | ii. MS Word | 10 Marks |
| (b) | IT Application Report File | 10 Marks |
| (c) | Viva | 05 Marks |

Design of Practical Question Paper

There is no preset question paper provided by the Board for conducting practical examination. This flexibility has been provided to give more freedom to the examiners for the improvement of practical examination, keeping in view the resources and other facilities available in the laboratory of the school. However, detailed instructions on the basis of syllabus, distribution of marks and conduction of practical examination has been provided. Examiners can set the question paper according to the prescribed Curriculum and distribution of marks.

(A) Hands on Experience

15 Marks

- (i) Windows operating System

05 Marks

To test some of the following basic system operations on file/folder(s):

- Create
- Rename
- Copy/Cut/Paste
- Delete
- Commands related to Notepad/Word pad /Paint.
- Using Clipboard

(ii) **MS Word** 10 Marks

A paragraph in MS Word incorporating some of the tools given below to be tested during the examination:

- Editing and formatting text and paragraph
- Page and paragraph set up
- Inserting pictures and Word Art.

(B) IT Application Report File 10 Marks

Students are supposed to mark a IT Application Report File containing real life assignments using paintwork Pad, Notepad and MS Word. File must have printouts of the following:

At least 10 documents of MS Word

At least 3 drawings using paint

(C) VIVA 05 Marks

Term II

One practical Paper

Duration of Examination : 2 hours

Marks : 30

Distribution of Marks

- | | |
|---------------------------------------|----------|
| (a) Hands on Experience (2 Exercises) | |
| (i) MS Excel | 07 Marks |
| (ii) MS Power Point | 08 Marks |
| (b) IT Application Report File | 10 Marks |
| (c) Viva | 05 Marks |

Design of Practical Question Paper

There is no pre-set question paper provided by the Board for conducting practical examination. This flexibility has been provided to give more freedom to the examiners for the improvement of practical examination, keeping in view the resources and other facilities available in the laboratory of the school. However, detailed instructions on the basis of syllabus and distribution of marks and conduction of practical examination has been provided. Examiners can set the question paper according to the proscribed Curriculum and distribution of marks.

(A) Hands on experience **15 Marks**

(i) MS Excel 07 Marks

A problem in spreadsheet related to some of the tools given below to be tested during the examination.

- Formatting cells and data
- Function and formulae(Relative, absolute and Mixed reference)
- Charts
- Printout of the documents(s) should be attached with the answer sheet

(ii) MS Power Point 08 Marks

A power point presentation with 2/3 slides using some of the tools given below to be tested during the examination:

- Editing and formatting slides
- Inserting pictures and sounds
- Animating pictures and text with sound effects

(B) IT Application Report File **10 Marks**

Students are supposed to mark IT application Report File containing real life assignments/ presentations using MS Power point and MS Excel. File must have printouts of the following:

At least 5 documents of MS Excel

At least 5 presentation of 4/5 slides.

(C) VIVA **05 Marks**

Books suggested :

1. Connecting through computers-I, Jiva Institute of Computer Education, Haryana.
2. Information Technology on line by Dr. M. Afsar Alam, Devraa Books, Delhi-06.
3. Informationg Technology for CBSE by S. Panchal and A. Sabharwal, Published by Oxford.

HOME SCIENCE

Objective:

1. To equip an adolescent with necessary knowledge & skills needed for efficient management of self.
2. To provide scientific information of all the processes of household activities and impart the necessary skills.
3. To provide opportunity to the adolescent to acquire skills needed for self-reliance.
4. To prepare adolescents with adequate knowledge & skills required to enter into future course of higher studies/advanced training.

DETAILED SYLLABUS

Theory : 75 Marks

Practical : 25 Marks

FIRST TERM II

Marks: 35

Time 2.00 hrs.

Unit I : Concept & Scope of Home Science. 5 marks

Unit II : Family—a unit of Society: Types & size of family; reasons for change in family types; effect of size on welfare of its members; role of family members in its smooth functioning. 10 marks

Unit III : Food & its relation to health: Definition of food, health, nutrition, nutrients and balanced diet, functions of food; inter relationship between food and health. 10 marks

Unit IV : Methods of cooking: Boiling, steaming, pressure cooking, frying, roasting & bating—brief description of each and suitability for foods. 10 marks

SECOND TERM II

Marks: 40

Time 2.00 hrs.

Unit V : Functions of Home: Protective & social; characteristics of a good house—security, like, ventilation, surroundings, Home— clean, comfortable place to live & work. 10 marks

Unit VI : Safety in the house: Prevention of accidents in the house; first-aid given to cuts, bruises, burns, scars & bites. 10 marks

Unit VII : Fabrics available in the market: Fibre to fabrics— sources, types and characteristics. 10 marks

Unit VIII : Selection of clothes: Factors affecting selection—appearance, comfort and durability. 10 marks

Practical : 20 + 5 (Sectional Work)

25 marks

1. Observe your own family for type, size & role of each member. Record the activities of all members on any one typical day of the family.
2. Observe any two children, one from 1-3 yrs, another from 3-5 yrs, belonging to your own family or neighbourhood and record milestones in any two areas of development.
3. List of foods you have eaten on any one day & classify them into food groups.
4. Observe food preparations using different methods and record taste, texture, colour of any two foods cooked using different methods.
5. Study your own house for light, ventilation and surroundings and record your observations.
6. Cleaning activities in the house— floor, walls, furniture and utensils: practice cleaning activities & record materials, equipments & procedures used.
7. Study your house for measures of safety & give suggestions for improvement.
8. Practice giving first aid to cuts, bruises, burns, scalds & bites.
9. Collect samples of fabrics available in the market and present a comparative picture on the basis of cost (optional), durability, appearance and suitability.

State reasons why you choose one fabric instead of the other.

WORK EDUCATION

The nature of essential activities at the Secondary stage (Classes IX – X) will remain the same as proposed for Classes VI to VIII. However, their complexity will increase by adding more dimensions with a definite prevocational focus and on the-job work.

1. Use of bus and railway timetables.
2. Milking of dairy animals.
3. Reception work in school.
4. Preparation & distribution of midday meal/snacks in composite schools.
5. Preparation of teaching aids and equipment for self and lower classes.
6. Helping school authorities in organizing exhibitions, picnics, tour and excursions, etc.
7. First aid activities like counting of pulse, taking of temperature and bandaging of wounds after their cleaning.
8. Helping traffic police in regulation of traffic.
9. Plantation of shady/fuel, ornamental/avenue trees.
10. Preparation of family budget and maintenance of daily household accounts.
11. Acquaintance with common fertilizers and practices and their application with appropriate equipment.
12. Acquaintance with common pests and plant diseases and use of simple chemical and plant protection equipments.
13. Handling farm animals for feeding, washing or general examination.
14. Preparation of soak-pit for collecting liquid from the cattle shed.
15. Studying the nutrition and health status of people in a village/city, slum/tribal area.
16. Helping in community programmes and enhancing the nutrition. Health and environmental status of the community through door to door contact programmes.
17. Digging trench latrines during festivals and maintaining them hygienically.
18. Participation in adult literacy programmes.
19. Help- in child-care.
20. Volunteer work in hospital and fairs, floods, famines and in accident, etc.

Note:- Work practice at this stage may also take the form of project with sequential activities relating to vocations in production or services sector. Each student should be required to take two projects in and outside the school, depending upon the availability of resources and time. Students should be required to take two projects in and outside the school depending upon the availability of resources and time and select projects in such a way that at least two needy areas are covered. The projects should provide vocational orientation.

A list of Projects is given below:

1. Raising of flowers, vegetables, plants and their seedlings in nurseries.
2. Repair and maintenance of equipment for plant protection.
3. Prefabrication of irrigation channels.
4. Developing plants by vegetative propagation -budding, grafting, cutting, layering, etc.
5. Raising poultry birds (1) for eggs, (2) for table purposes.
6. Making bakery and confectionery products.
7. Food preservation-making of jam, jelly, tomato ketchup-pickles.
8. Project relating to non-conventional sources of energy-sun, wind, , bio-gas, etc.
9. Cookery skills.
10. Bee-keeping, bottling and marketing of honey.
11. Silkworm rearing for sale or yarn making.
12. Mushroom cultivation for consumption, preservation and sale.
13. Fish rearing in small ponds.
14. Post-harvest technology and safe storage of food grains.
15. Use of bacterial fertilizers.
16. Preparation of milk products.
17. Plant protection against pests and diseases.
18. Soil testing reclamation measures.
19. Preparation of stationery items such as files, files-boards, registers, writing pads, stamping ink, etc.
20. Tying and dyeing and screen-printing as commercial ventures.
21. Garment making.
22. Repair and maintenance of domestic electrical gadgets.
23. Preparing electric extension boards for use in home/school or for sale.
24. Motor-winging as trade.
25. Photography-commercial.
26. Preparation of decoration pieces of a more sophisticated nature out of plaster of paris.
27. Mat and carpet weaving.
28. Doll-making.
29. Hand embroidery.
30. Typewriting with adequate proficiency.
31. Stenography.
32. Preparation of nutritious snacks.
33. Preparation of a variety of teaching aids for use in school.
34. Plumbing.
35. Running a cooperative store.
36. Running a student's bank.
37. Running a book bank.

HEALTH AND PHYSICAL EDUCATION

SPECIFIC OBJECTIVES

(Class IX)

Health Education

1. To develop favourable attitude towards good health.
2. To prepare the individual for contribution towards the solution of common health problems.
3. To prepare the individual to contribute to environmental hygiene.
4. To prepare the individual to be active in good posture, exercise, rest, sleep & food.
5. To develop favourable attitude for participating in immunization programmes.
6. To develop favourable attitude to observe safety rules in & out of home.
7. To develop favourable attitudes towards healthy living through observance of health habits and such practices that contribute to good health.
8. To acquaint the individual with harmful effects of smoking, drinking and abuse of drugs.
9. To develop favourable attitude to cooperate with health, police and other organisations in the interest of efficient service to community.
10. To enable the individual to make right decisions relating to principles and practices of consumer health.
11. To enable the individual to practise acceptable health habits and shun from practices and habits like; smoking, drinking etc.

Physical Education

1. To promote physical fitness and organic efficiency.
2. To develop awareness regarding importance of physical fitness and organic efficiency in individual and social life.
3. To develop awareness regarding transfer of fundamental processes to physical activities of one's choice.
4. To develop interest in exercise, sports and games for self-satisfaction in present & later life.
5. To enable an individual to give evidence of talent and such traits as self-mastery, discipline, courage, confidence and efficiency.
6. To enable an individual to display sense of responsibility, patience, self-sacrifice and service to community in a better way.
7. To develop awareness to good posture so that one may strive to maintain good posture.
8. To enable an individual to lead an enthusiastic and active life.
9. To enable an individual to practise socially acceptable behaviour pattern in an impressive manner.

DETAILED SYLLABUS

Health Education

1. Personal health

Concept and nature of personal health; dimensions of personal health; factors influencing personal health; desirable and undesirable habits of personal health; abuse of smoking and drugs, periodical medical check-up and its importance.

2. Environment Health

Need to improve health conditions and environment in the village/town, improved practices of waste disposal, cooperation in keeping drinking water clean and unpolluted: participation in activities of maintaining healthy environment condition in the school.

3. Food and Nutrition

Effect of mal-nutrition: Recognition and selection of body-building energy given and protective foods for daily diet from locally available food.

4. Control of diseases

Knowledge of common diseases occurring in different seasons; participation in control of various local diseases, knowledge of diseases and precaution against their spreading practice of health, habits which promote long and healthy life.

5. Consumer Education

Meaning, concept and need of consumer education; cooperation in the enforcement of consumer laws in the community; Regulating one's own behaviour, Hazards of drug addiction.

6. First-aid, Home Nursing and safety Measures

Practicing safety rules : Providing first-aid in real situations, Observance and cooperation in enforcement of traffic laws and safety rules, Participating in safety measures against fire, air-raids and other emergencies.

Physical Education

Athletics

1. Event 100, 200, 400, 800, 1500, 3000, 100m flat running.
2. 200m, 400m, Sprints
Starting from the Curves Fixing the block
Curve running
Body Position; start and finish
3. Distance Running –800m, 150m and 80m for boys, 800m for girls.
 - Leg action.
 - Footplacement
 - Stride length.
 - Arm and shoulder action.
 - Body angle

4. Training with various methods

- Jumps
- Triple Jump:
- Approach run, take off and landing.

2. **Landing**

Throws, Discuss throw hold, spinning initial stand and preliminary swing turn, delivery stance, delivery and reverse.

II. Major games (any two)

1. **Badminton**

- (a) Repetition of Skills
- (b) Skill-serving, spin underhand, Receiving-back hand, fore hand, spin service, flat service smash push/chapping, tossing returning-smash, pushing/chapping, float.

Practice of the game

2. **Basket Ball**

- (a) Repetition of skills
- (b) Skills Passing-one hand pass, hook pass, base ball pass. Shooting-two handed shot, set shot, lay shot, jumps shot. Dribbling. Pivoting Rebound taking. Screening.
- (c) Training: Various type of drills to develop the techniques.
- (d) Regulation game

3. **Cricket**

- (a) Repetition of skills
- (b) Skill Batting- Square, cut/drives Bowling-off spin, leg spin, fast, Yorker. Wicket keeping, field placement
- (c) Training Development- endurance, power, strength and speed Techniques

4. **Football**

- (a) Repetition of skills
- (b) Kicking and trapping individual and practice.kicking and trapping, individual an practice Heading-downwards, side wards, for ward back ward trickling side tackle direct tackle, ball, ground, deflecting, Punching, Goal keeping high ball, ground deflecting Positioning diving and slip.
- (c) Training :

To develop power, strength, ability, endurance and skills.

5. **Hand-ball**

- (a) Repetition of skills
- (b) Skills, Passing, Shooting, Blocking, Carrying, Catch and turn, Taking penalty
- (c) Positional play: Different plays of different offence and moves.

6. Hockey

- (a) Repetition of skills
- (b) Skills Passing: For Development of speed, direction, timing-pass, back pass and cross pass, Goal keeping : Kicking, padding, positioning, pushing and palming Positional play.

7. Kabaddi

- (a) Repetition of skills
- (b) Skills, Cant, Fast raiding, Back kick, Squat leg trust, Toetouching, Jumping Movement of arm and shoulder, Catching, Trapping, Chair formative, Game practice

8. Kho-Kho

- (a) Repetition of skills
- (b) Skills: Pole dive, Playing around the Pole, Single chain, mix, plauovalring, Covering.Trapping.
- (c) Regulation game.

9. Volley ball

- (a) Repetition of skills
- (b) Skills: Passing-under hand pass, both hands, jumps and pass, Pass for smashing, back pass jump pass, Smashing-round arm smashing and twist smashing, Placing Service underhand, round arm-over arm, Defence-blocking.
- (c) Positional play.
- (d) Regulation game.

Conditioning Exercises

Like Tuck jumps, abdominal exercise flexibility exercise, yoga, wrestling and other jumping exercise with emphasis on more number of repetitions.

GIRLS

Gymnastics

Repetition of skills learnt in the previous class.

A. Skills part

Floor Exercises

- (i) One hand Cartwheel
- (ii) Round off (Cartwheel
- (iii) Pyramids

Balancing Beam

- (i) Dancing movements
- (ii) Turning movements
- (iii) Front roll & back roll
- (iv) Deferent balances

Vaulting Horse

Straddle vault on Broad horse.

BOYS

Gymnastics

Repetition of previously learnt skills.

A. Skills part.

Floor Exercise

- (i) Head spring
- (ii) Round off (Cartwheel cut).
- (iii) Pyramids.

Vaulting Horse

- (i) Straddle vault on broad horse.
- (ii) Hand spring on broad horse.
- (iii) Take-off and sitting on the long horse.
- (iv) Straddle from the standing position on long horse.

Parallel Bars

- 1. Different kind of mounts and dismounts.
- 2. One bar roll.
- 3. Shoulder stand
- 4. 'L' position hold.

Horizontal Bar

- 1. Different type of grips
- 2. Back turn over.
- 3. One leg circle forward

Simple swing

Yogic Exercises

- 1. Dhanurasan
- 2. Kuk-kuktasan
- 3. Mayurasan
- 4. Supt-baja-asan
- 5. Uttan-pad-asan
- 6. Gaumukhasan
- 7. Sankatasan
- 8. Supt-paean Muktasan
- 9. Urdu-Hastolanasan
- 10. Surya Namaskar

JUDO

1. History and Development
2. Rules of the Game
3. Warming up and its importance
4. Knowledge of Grading

Skill

- i. Obstraceukemi
- ii. Rarai Gosh (Hip Sweep)
- iii. Deashi Harai (Forward Foot Sweep)
- iv. Seol Nage (Shoulder Throw)
- v. Osotogari (Major Outer Heap)
- vi. Sasaet Surikomishi (Life-Full Throw with Supporting Foot)
- vii. Cart Wheel (Bothside)
- viii. Ushiro Kesa Gatame (Madified Scarf Throw)

Combatives

Wrestling

1. Repetition of skills-learnt in previous class.
2. Simple hold: take downs:Single leg dive.
3. Double-leg-dive. counter for the above.
4. Head push and sit through.
5. Pinning holds.
 - (a) 1. Three quarters nelson.
 2. Double arm role
 3. Chicken wing nelson
 4. Hip throw.
- (b) Break downs and counterfor the above.

Exercises for developing quickness, strength, power and endurance.

- (a) Dagger Fight (Jambia)
- (b) Repetition of the strokes and defence skills
- (c) Side stroke, Cheat stroke defense ship throw arm role, holding wrist and pull.
- (d) Actual fight practice.

Swimming (Optional) : Repeat the skills learnt earlier :

1. Treading water.
2. Horizontal and vertical floating
3. Under water swimming Board diving.

ART EDUCATION

There shall be one paper of 100 marks and of 3 hours duration.

1. Two Dimensional or Pictorial Activities

1.1 Study of visual resources and their expression.

- (i) Study of line, strokes, marks, tones, textures, etc., while organizing two dimensional spaces with 2 dimensional and 3 dimensional shapes and forms.
- (ii) Creative use of perspective in special relationship.
- (iii) Creative use of colour to show space, atmosphere, etc.
- (iv) Use of contrast as an expressive element of art.

1.2 Study and use of various media and techniques to the extent or their availability.

- (i) Crayon, charcoal pencil colours and gouache, acrylic colour and other unconventional source of colours and tools on various surface such as papers, canvases, hard-board, simple marking cloth pasted on paper etc.
- (ii) Collage and mosaic work with coloured papers and coloured reproductions from magazines and newspapers.
- (iii) Print Making: Mono-printing, printing with wood cut, lino-cut and metal foil, serigraphy, colleography (printing with collage) etc.

2. Three Dimensional or Sculptural Activities.

2.1 Study of basic form in clay;

2.2 Study of various materials, tools & techniques for dimensional form such as clay, plaster of paris, wood (blocks, twigs and branch, roots, etc.) metal scraps, plastic sheet, wire thread, straw pipes, papers, card board, throw-away objects and other materials, like vegetables, soft stone clay bricks or such other available materials.

- (i) Study of natural man-made forms, human figures, birds, animals, vegetation & other objects as desired by the students;
- (ii) Objects of day-to-day use in group and indifferent setting and arrangements;
- (iii) Architectural forms and other forms discovered by the students.

3. Assignments

3.1 Assignments in two and three dimensional subjective forms utilization and functional art and craft forms.

3.2 Painting murals, graphics, clay model constructions. Collage mobiles, appliquéés, pottery and ceramics, marks and puppets, textile designing (including tie and dye and batik), poster designing, layout and illustration.

4. Correlating Art Activities with other School Activities.

- 4.1** Vegetable sculpturing, and construction of puppet costumes for theatre correlating with Home Science and Drama.
- 4.2** Developing school environmental landscape and display, planting trees, and other plants and vegetables, etc. Correlating with Agricultural activities.
- 4.3** Constructing stage properties and other workshop activities, and designing of utility (craft) items correlating with work experience activities.
- 4.4** Designing the school magazine and bulletin board, making posters for school functions and greetings, stage setting etc. correlating with applied art activities.

Note:— These activities and other group activities may emerge in project form as also at individual levels.

5. Group Activities.

- 5.1** Organising display and exhibitions of student's periodical and sessional work.
- 5.2** Organising inter-school art exhibitions (not with a view to competition and prize distribution but with a view to widen interaction).
- 5.3** Planning and arranging cultural evenings, musical concerts, film shows and other performances (including other regional and folk community art forms)
- 5.4** Participating in study trips to museums, botanical gardens, zoological gardens, and art galleries and art institutions etc. for greater awareness of the environment & cultural varieties.

6. Theoretical understanding of Art and Culture.

TERM I.6.1 Short notes with suitable reproductions on important aspects of Indian Art and Culture.

- i. Pre historic (India) a. Indus Valley Civilisation b . Gupta Art. c. Mauryan Art.

Note:- A student is supposed to collect atleast five visuals from various sources, (Photostat copy) giving brief detail about the visual alongwith its source

TERM II. 6.2 Important contemporary Artists and Art movements.

- i. Contemporary Art (Bangal School of Art) a .
a. Rabindernath Tagore b.Amrita Shergil iii. M.F. Hussain iv. G.R Santosh v. G.M. Sheikh
vi. Gayoor Hassan vii. Masood Hussain.

Note:- Very brief intorduction about the Artisits (not exceeding 50 words).

Suggested Reading : Art Education, Devraa Books, New Delhi-6.

PAINTING

Marks : 100

Time : 3 hours

First Term

Time 1 .30 hour

50 marks

1. Still life study

Study of a group of two three arranged objects from a fixed point of view in colour. Group may include, vegetables, foliage and objects of daily use.

Second Term

Time 1 .30 hour

50 marks

2. Sketches from life and Nature in pencil and ink. 20 Marks
3. Submission of portrifolic consisting of five selected works done during the year. 30 Marks

MUSIC

Theory Marks -25

Practical Marks-75

Note:- There shall be one theory paper of 25 marks and a practical Paper of 75 marks. The students have to pass Theory and Practical Examination separately.

Theory	First Term Test T ₁	=	10 Marks	Time :- 1 hour
	Second Term Test T ₂	=	15 Marks	Time :- 1 hour

TERM I

1. Definition of the following terms:-

Sangeet, Nad, Shruti, Sawar, Kinds of Sawar, Saptak, Jati, That, Rag, Vadi, Samvadi, Varjit Sawar, Taal, Laya, Alankar 10 marks

TERM II.

2. Definition of Ragas of the Course 05 marks
3. Definition of Taals of the course 05 marks
4. Life history of the following Musicians
(a) Tansen
(b) Amir Khusro 05 marks

Practicals	First Term Test T ₁	=	40 Marks	Marks- 75
	Second Term Test T ₂	=	35 Marks	Time- 2 hours

1. Practice of Alankarn (Only shudh sawar)
2. Chot khayal in the following ragas with Arot, Aavroh, Pakad and Tans
(a) Rag Bhupali
(b) Rag Yaman
3. Practice of the following Taals:-
(a) Taal Dadra
(b) Taal Kehuva
(c) Teen Taal

Books:- Sangeet Shastra Darpan (Part-1) by Smt. Shanti Govardhan.
(Pathak Publications, 27 Mahazani Tola, Allahabad, 211003).