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 XIII	Statistics	15 marks

Unit VIII **Marks 15**

Definition, Laws of logarithm i.e. $\text{Log}_a xy = \log_a x + \log_a y, \log \frac{x}{y} = \log_a x - \log_a y, \log_a x^y = y\log_a x$ where a>0, Logarithms to Base 10, Standard from 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 are 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 to 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 their 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 at 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 traingle 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	2×8=16
2.	Four 5 marks questions with internal & parallel choice	4×5=20
3.	Six 3 marks questions	6×3=18
4.	Six 1 mark questions	6×1=6

Second Term — ***80 marks***

1.	Three 8 marks questions with internal & parallel choice	3×8 = 24
2.	Five 5 marks questions with internal & parallel choice	5×5 = 25
3.	Eight 3 marks questions	8×3 = 24
4.	Seven 1 mark questions	7×1 = 7

Note:

1. The students can use simple electronic calculators. Electronic calculators having exponential and trignometric functions shall not be allowed.
2. Trignometrical /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 studies of class 9th will have 5 components covering all areas of the social environment a student experience is his day to day life. The social studies will contain content related to the following areas– History, Geography, Political Science, Economics, Disaster management. The distribution of marks in each term and each unit will be as under.

S.No.	Name of component	Term I	Term II	Total marks
1	History	30 marks	30 marks	60 marks
2	Geography	30 marks	30 marks	60 marks
3	Political Science	20 marks	20 marks	40 marks
4	Economics	10 marks	10 marks	20 marks
5	Disaster management	10 marks	10 marks	20 marks

Marks = 200

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 the candidate's knowledge is rooted in an understanding of the nature and use of historical evidences.
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 consequences, continuity and change, similarity and difference.
6. To promote understanding of these aspect of Indian historical development which are necessary to know and understand.

DOMAINS:

(Assessment Objectives)

Student should be able to:

1. Recall, select and use relevant information and communicate it in a coherent form.
2. To Demonstrate understanding of historical terminology and concept/(cause and Consequences, 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 distinguish between fact, opinion and judgement.
   (iii) To indicate deficiencies, such as gaps and inconsistencies.
   (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.

GEOGRAPHY

AIMS :

The aims are to encourage students to develop:

1. A sense of place and an understanding of elative 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:

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

B. Analysis:

Students should be able to:

1. Select, organise, present and interpret geographical data.
2. Use and apply geographical knowledge and understanding on verbal numerical diagrammatic, pictorial and graphical form.
3. Use geographical date 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 judgments, (including evaluation and conclusions) which demonstrate where appropriate.

1. An aesthetic and a concern for landscape and the environment.
2. A sensitivity and a concern for landscape and the environment.
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 wiyhin 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 he 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

POLITICAL SCIENCE

Rationale:

Following an elementary introduction to the Social and Political life in Classes VI to VIII, the process of understanding, critical reflection and analysis of the political life is taken to a higher level at the secondary stage.

Political Science at this stage introduces the young learners to the political phenomenon by taking up the central theme of Democratic Politics.

The course seeks to introduce the students to the Constitution of India, without getting into technicalities of the constitutional provisions.

The course has been structured to give students a basic orientation and opportunities to reflect and debate on their own experience and values in relation to the Indian Constitution and democratic politics.

The course has been structured to give students a basic orientation and opportunities to reflect and debate on their own experience and values in relation to the Indian Constitution and democratic politics.

It would further develop their capacities and skills to weave interconnections between the personal and the political, the national and the international realms of democratic way of life.

Learning Objectives:

Unit I. Democracy in contemporary world

- Develop a comparative historical sense of the spread of democracy.
- Analyze the functioning of global institutions such as UN.
- Skills of comparison and evaluation.

Unit II. What is Democracy? Why Democracy?

- Develop conceptual skills of defining democracy.
- Understand how different historical processes and forces have promoted democracy.
- Developing a sophisticated defence of democracy against common prejudices.

Unit III. Constitutional Design

- Develop a historical sense of the choice and nature of democracy in India.
- Introduction to the process of Constitution making.
- Develop respect for the Constitution and appreciation for Constitutional values.
- Recognise that constitution is a living document that undergoes changes.

Unit IV. Electoral Politics

- Introduce the idea of representative democracy.
- Familiarize with our electoral system and reasons for choosing this.
- Develop an appreciation of citizen's increased participation in electoral politics.
- Recognise the significance of the Election Commission.

Unit V. Working of Institutions

- Provide an overview of central governmental structures.
- Sensitise to the key role of the Parliament and its procedures.
- Distinguish between nominal and real executive authorities and functions.
- Understand the parliamentary system of executive's accountability to the legislature.

Unit VI. Democratic Rights

- Develop citizens awareness of their rights.
- Introduction to and appreciation of the Fundamental Rights.
- Recognition of the ways in which these rights are exercised and denied in real life situations.
- Enforceability of the Fundamental Rights through Supreme Court and High Courts.

TERM -I

HISTORY

20 Marks

Unit I event and processes

(i) The French Revolution

Ancient Regime and its crisis. Circumstances that led to the revolution. Different revolutionary groups and ideas of the time, its impact.

Or

(ii) Socialism in Europe and the Russian Revolution

Crisis of Tzarism, Nature of Social movements, between 1905 and 1917, First World War and Foundation of Soviet State, its impact. **10 Marks**

(iii) Rise of Nazism.

Growth of Social democracy, Crisis in Germany, Basis of Hitler, rise to power, Ideology and impact of Nazism. **10 Marks**

(iv) Modern Jammu and Kashmir State.

Foundation of J & K State, Administration under Dogra's Socio-Economic Development, Clothing in the State. **10 Marks**

GEOGRAPHY

30 Marks

1. India, size and location

(a) Indian and the world
(b) India and the Neighbours
(c) Geographical Regions with special reference to J & K State. — 10 Marks

2. Physical features of India

(a) The Himalayan Mountains
(b) The Northern Plains
(c) The Peninsular Plateau
(d) The Indian Desert
(e) The Coastal Plains
(f) The Islands
(g) Man physical divisions of J & K State. — 10 Marks

3. Drainage

(a) Drainage system in India
(b) The Indus River System
(c) Ganga River System
(d) Brahamputra River System
(e) Peninsular River System
(f) Narmada Basin
Tapi, Godavari
The Mahanadi Basin
The Krishna Basin
Cauvery Basin
River Pollution, Lakes in J & K State. — 10 Marks

POLITICAL SCIENCE

20 Marks

Unit I. Democracy in contemporary world — (6 Marks)

1.1 Two tales of Democracy
1.2 The changing map of Democracy
1.3 Phases in the expansion of Democracy
1.4 Democracy at the global level

Unit II. What is Democracy; Why Democracy? — (6 Marks)

2.1 What is Democracy?
2.2 Features of Democracy
2.3 Why Democracy?
2.4 Broader meaning of Democracy

Unit III. Constitutional Design **(8 Marks)**

3.1 Democratic Constitution in South Africa
3.2 Why do we need a Constitution?
3.3 Making of the Indian Constitution
3.4 Guiding values of the Indian Constitution

ECONOMICS

10 Marks

Chapter 1: Money and Banking

1.1 Money as a medium of exchange; Modern forms of Money-Currency, Plastic Money-Debit Card, Credit Card. What is a Bank; Types of Banks; Deposits with Commercial Banks-Saving Account, Term Deposits, Recurring Account; Loan and credit activities of Banks.

1.2 Banking and the common man: Opening of Saving accounts in Bank; Depositing and withdrawing money from saving accounts in Bank, Role of Post Office in savings.

DISASTER MANAGEMENT

10 Marks

Chapter 1. Natural Disasters

1.1 Meaning of Hazard, Disaster and Mitigation.

1.2 Natural Disasters: General concept.

1.3 Effects and Mitigation measures of the following natural disasters common in J&K state–Earthquakes, landslides, snow avalanches, floods, droughts and cloud burst.

TERM-II
HISTORY

Unit II **30 Marks**

Livelihood, Economics and Societies

(i) Forest Society and Colonoliasim–Deforestation, Commercial forestry-effects.

OR

(ii) Pastoralists in the Modern world-life of pastoralists, Impact of colonial rule on pastoralists **10 Marks**

(iii) Peasants and farmers, Capitalism and Agriculture **10 Marks**

Unit III

Everyday Life, Culture and Politics

(i) History and sports-The story of Cricket.

OR

(ii) Clothing-A social History-Society and clothing. **10 Marks**

GEOGRAPHY

30 Marks

1. Climate

(a) Climate Sector
(b) Climate control
(c) Pressure and winds
(d) Upper Air Circulation
(e) Western Cyclonic Disturbances
(f) The Indian Monsoons
The Cold Weather season
Hot weather seasons
Transition seasons
Distribution of rainfall

Monsoons as unifying bond

Climate reference of J&K State

2. Natural Vegetation and Wild Life

(a) Relief, Climate, Precipitation
(b) Types of vegetation
(a) Tropical Evergreen forests
(b) Tropical deciduous forests
(c) Tropical throns and scrubs
(d) Montane forests
(e) Man groove forests

13 Marks

B. Wild life, classification of vegetation in J&K State.

3. Population-Size & Distribution

India's Population and Distribution by density
Population Growth and process of population change
(a) Age composition
(b) Sex Ratio
(c) Occupational Structure
(d) Literacy
(e) Health
(f) Adolescence population
(g) National Population Policy
(h) Population of J&K State

POLITICAL SCIENCE

20 Marks
(8 Marks)

Unit IV. Electoral Politics

4.1 Why Election?
4.2 What is our system of Elections?
4.3 What makes elections in India Democratic?
4.4 Acceptance of election outcome.

Unit V. Working of Institutions (6 Marks)

5.1 How is a Major Policy Decision Taken?
5.2 Parliament
5.3 Political Executive
5.4 The Judiciary

Unit VI. Democratic Right (6 Marks)

6.1 Rights in a Democracy
6.2 Rights in the Indian Consitution
6.3 Guarantee of Fundamental Rights
6.4 Expanding Scope of Democracy

ECONOMICS

10 Marks

Chapter II : Understanding the Indian Economy

2.1 Salient features of Indian Economy: Economic activities- Primary, Secondary, tertiary activities; What is Gross Domestic product; Sectoral share in Gross Domestic product– Agriculture and allied. Industry and Services;

2.2 People as a Resource: Factors determining *Quality of Population; Unemployment*-meaning & types; *Poverty*-Nature, meaning of poverty line, cause of poverty, Anti poverty measures-National rural employment guarantee act (NREGA 2005), National Food for work Programme (NFWP), Prime minister rozgar yojana (PMRY), rural employment generation programme (REGP), Swaranjayanti gram swarozgar yojana (SGSY), Antodaya anna yojana (AAY), Meaning of Food security,

DISASTER MANAGEMENT

10 Marks

Chapter 2: Man, Made Disasters

2.1 Man-made Disasters: General concept.
2.2 Effect and Mitigation measures of the following Disasters common in J&K state:- Fire, Environmental degradation, transport accidents, Chemical/industrial accidents.

Suggested Activities for Students:

The school can organize Training and Mock drills for Rescue operation, fire fighting and first aid for students, in collaboration with the following agencies:

1. J&K Fire and Emergency Services
2. Civil Defence
3. SDRF (State Disasters Response Force)
4. Medical experts

Assessment of Second Term Course

The assessment of First Term and Second Term Course shall be made through one Unit tests and Term tests as as envisaged in the Continuous and Comprehensive Evaluation Scheme, introduced by the Board

Course Work

Every regular student shall be requires to produce two pieces of course work, one in History, and Political Science and one in Geography for each Term. The topic, theme for each such work will be selected from the syllabus contents to produce and essays 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 weightgae assigned to different types of question are given below:

First Term	**100 Marks**
Ist Unit Test	**20 Marks**
(i) History	06 Marks
(ii) Geography	06 Marks
(iii) Political Science	04 Marks
(iv) Economics	02 Marks
(v) Disaster Management	02 Marks
2nd Unit Test	**20 Marks**
(i) History	06 Marks
(ii) Geography	06 Marks
(iii) Political Science	04 Marks
(iv) Economics	02 Marks
(v) Disaster Management	02 Marks
First Term Test	**60 Marks**
(i) History	18 Marks
(ii) Geography	18 Marks
(iii) Political Science	12 Marks
(iv) Economics	06 Marks
(v) Disaster Management	06 Marks

Type of question to be set in History

Two 05 marks long answer questions with Internal and parallel choice	= 2 × 5	= 10 marks
One 03 marks short answer questions	= 3 × 1	= 03 marks
Two 02 marks very short answer questions	= 2 × 2	= 04 marks
One 01 mark objective question	= 1 × 1	= 01 marks

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

Type of question to be set in Political Science

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

Type of question to be set in Disaster Management and Economics

Two 03 marks short answer questions (One from disaster and economics each)	= 2 × 3	= 06 marks

Two 02 marks very short answer questions = 2 × 2 = 04 marks
(Two each from economics and disaster management)
Two 01 mark objective question = 2 × 1 = 02 marks
(One each from economics and disaster management)

Second Term **100 marks**
3rd Unit Test **20 Marks**

(i) History 06 Marks
(ii) Geography 06 Marks
(iii) Political Science 04 Marks
(iv) Economics 02 Marks
(v) Disaster Management 02 Marks

Second Term Test: **80 Marks**

(i) History 24 Marks
(ii) Geography 24 Marks
(iii) Political Science 16 Marks
(iv) Economics 08 Marks
(v) Disaster Management 08 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
Two 02 marks very short answer questions = 2 × 2 = 04 marks
One 01 marks objective question = 1 × 1 = 01 marks

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

Type of question to be set in Political Science

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

Type of question to be set in Disaster Management and Economics

Two 04 marks long answer questions with internal and parallel choice = 02 × 04 = 08
(One questions each to be set from economics & disaster managment)
Two 03 marks short answer questions = 02 × 03 = 06
(One questions each to be set from economics & disaster managment)
Two 01 marks objective questions = 02 × 01 = 02
(One questions each to be set from economics & disaster managment)

Book Prescribed

1. A textbook of History
2. Political Science for class IX
3. Geography for class IX
4. A textbook of Economics and Disaster Management
published by Jammu and Kashmir State 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 the 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 while 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 education 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 and 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 deterimental 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

1st 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

TERM - I

SCIENCE –I (PHYSICS)

Theory: - 25 Marks ***Practical: - 9 Marks***

Unit-1: 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/10periods**

Force and its relation to motion, balanced and unbalanced forces, concept of intertia 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 **07 marks/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

Ist 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 atleast three practicals.

Suggested areas for Assignment/Project work

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.

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/ Period : 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