ANNUAL SYLLABUS (2024-25)
CLASS-9, SUBJECT: SCIENCE (086)

Unit No.	Unit	Marks
I	**Matter - Its Nature and Behaviour**	25
II	**Organization in the Living World**	22
III	**Motion, Force and Work**	27
IV	**Food; Food Production**	06
	Total	**80**
	Internal assessment	**20**
	Grand Total	**100**

Content

UNIT-I Matter-Nature and Behaviour

Chapter -1:**Matter in our surroundings**

Definition of Matter; Solid, liquid and gas; Characteristics – Shape, Volume, Density; change of state – melting (Absorption of heat), freezing, evaporation (Cooling by evaporation), Condensation, Sublimation.

Practical: Determine the melting point of ice and boiling point of water.

Chapter-2: Is Matter Around Us Pure:

Elements, compound and mixtures. Heterogeneous and homogeneous mixtures, colloids and suspensions. Physical and chemical changes (excluding separating the components of a mixture).

Practical : Preparation of

a) A true solution of common salt, sugar and alum.

b) A suspension of soil, chalk powder and fine sand in water.

c) A colloidal solution of starch in water and egg albumin/ milk in water and distinction between these on the basis of

- transparency
- filtration criterion
- stability

Practical: Preparation of a) Mixture b) A Compound, using iron filings and Sulphur powder and distinction between these on the basis of –

i) appearance i.e. homogeneity and heterogeneity

ii) behavior towards a magnet

iii) behavior towards Carbon disulphide as a solvent

iv) effect of heat

Practical: Performing the following reactions and classifying them as physical or chemical changes:

a) Iron with Copper Sulphate solution in water b) Burning of magnesium ribbon in air

c) Zinc with dilute Sulphuric Acid

d) Heating of Copper Sulphate Crystals

e) Sodium Sulphate with Barium Chloride in the form of their Solution in water.

UNIT-II -Organization in the Living World:

Chapter-5:**The Fundamental Unit of Life**

Cell as a basic unit of life; Prokaryotic and Eukaryotic cells, multicellular organisms, cell membrane and cell wall, cell organelles and cell inclusions; chloroplast, mitochondria, vacuoles, endoplasmic reticulum, Golgi apparatus; nucleus, chromosomes – basic structure, number.

Practical : Preparation of stained temporary mounts of

a) Onion peel ; b) Human Cheek Cells and to record observations and draw their labeled diagrams.

Chapter- 6: Tissues
Structure and functions of animal and plant tissues (only four types of tissues in animals, Meristematic and Permanent tissues in plants)

Practical: Identification of Parenchyma, Collenchyma and Sclerenchyma tissues in plants, Striped, Smooth and Cardiac muscle fibres and Nerve cells in animals from prepared slides. Draw their labeled diagram.

UNIT-III – Motion, Force and Work
Chapter-7: Motion
Distance and displacement, velocity, uniform and non-uniform motion along a straight line, acceleration, distance- time and velocity- time graphs for uniform motion and uniformly accelerated motion, elementary idea of uniform circular motion.

Chapter-8: Force and Laws of Motion:
Force and motion, Newton's Laws of Motion, Action and Reaction forces, Inertia of a body, Inertia and mass, Momentum, Force and Acceleration.

UNIT IV- Food Production
Chapter-12: Improvement In Food Resources
Plant and animal breeding and selection for quality improvement and management; Use of fertilizers and manures; Protection from pests and diseases, Organic farming.

Note:

- **The above mid-term syllabus is to be completed by September 13, 2024.**
- **Revision of syllabus for Mid –Term Examination 2024**

Mid –Term Examination 2024

UNIT III – Motion, Force and Work
Chapter-9:Gravitation
Gravitation, Universal law of Gravitation, Force of Gravitation of earth (gravity), Acceleration due to gravity; Mass and weight, Free fall.

Floatation: Thrust and pressure, Archimedes' principle, Buoyancy.

Practical: Determination of the density of solid (denser than water) by using a spring balance and measuring cylinder.

Practical: Establishing the relation between the loss in weight of solid when fully immersed in (a) tap water (b) Strongly salty water with the weight of water displaced by it by taking at least two different solids.

UNIT I – Matter - Its Nature and Behavior
Chapter-3: Atoms And Molecules
Particle nature and their basic units: Atoms and molecules, Laws of Chemical Combination. Atomic and molecular masses.

Practical: Verification of Law of Conservation of mass in a chemical reaction.

Chapter-4: Structure Of The Atom: Electrons, Protons and Neutrons, Valency, Chemical formula of common compounds, Atomic Number and Mass Number, Isotopes and Isobars.

UNIT III - Motion, Force and Work

Chapter-10: Work and Energy

Work done by a force, Energy, Power, Kinetic and Potential energy; Law of conservation of energy. (*excluding commercial unit of Energy*)

Chapter-11: Sound

Nature of sound and its propagation in various media, speed of sound, range of hearing in humans, ultrasound, reflection of sound; Echo.

Practical: Determination of the speed of a pulse propagated through a stretched string / slinky (helical spring).

Practical: Verification of the Laws of reflection of sound.

Note:

- The entire syllabus is to be completed by **January 31, 2025.**
- Revision of entire syllabus for Annual Examination 2025.
- **For more information kindly visit to CBSE Academic:**

  https://cbseacademic.nic.in/web_material/CurriculumMain25/Sec/Science_Sec_2024-25.pdf

Common Annual School Examination (CASE): 2024-25 will be based on the complete syllabus.

Annual Examination (CASE) -2025

Note for the Teachers:

1. The chapter Natural Resources (NCERT Chapter 14) will not be assessed in the year-end examination. However, learners may be assigned to read this chapter and encouraged to prepare a brief write up on any concept of this chapter in their Portfolio. This may be for Internal Assessment and credit may be given for Periodic Assessment/Portfolio.
2. The NCERT text books present information in boxes across the book. These help students to get conceptual clarity. However, the information in these boxes would not be assessed in the year-end examination.

Question Paper Design
Class IX/X (2024-25)
Subject: Science (086)

Theory (80 marks) **Duration :3 Hours**

S.No.	Competencies	Total
1.	Demonstrate Knowledge and Understanding	46%
2.	Application of Knowledge/Concepts	22%
3.	Formulate, Analyze, Evaluate and Create	32%
	Total	100%

Note:

- Typology of Questions: VSA including objective type questions, Assertion – Reasoning type questions; SA; LA; Source-based/ Case-based/ Passage-based/ integrated assessment questions.
  - *An internal choice of approximately 33% would be provided.*

Internal Assessment: (20 Marks)

- Periodic Assessment – 05 marks + 05 marks
- Subject Enrichment (Practical Work) – 05 marks
- Portfolio – 05 marks .

Suggestive verbs for various competencies

- Demonstrate Knowledge and Understanding:
  State, name, list, identify, define, suggest, describe, outline, summarize, etc.
- Application of Knowledge/Concepts:
  Calculate, illustrate, show, adapt, explain, distinguish, etc.
- Formulate, Analyze, Evaluate and Create:
  Interpret, analyze, compare, contrast, examine, evaluate, discuss, construct, etc.