

PHYSICS

For Class IX (marks 65)

- 1. Introduction**
 - i. What is Physics?
 - ii. Scope of Physics
 - iii. Scientific methods
 - iv. Teachings of Islam and science
 - v. Contribution to Science by Muslim and Pakistani Scientists

- 2. Measurements**
 - i. Physical Quantities
 - ii. International System of units
 - iii. Use of Prefixes and Scientific Notation
 - iv. Use of measuring instruments
 - v. Errors, Uncertainties in measurements and significant figures
 - vi. Relationship between different physical quantities, constant of proportionality

- 3. Kinematics of Linear Motion**
 - i. Rest and motion
 - ii. Kinematics and Dynamics
 - iii. Position, distance, displacement, speed and velocity, scalar and vector quantities Acceleration
 - iv. Equations of motion
 - v. Motion under gravity

- 4. Motion and Force**
 - i. Newton's laws of motion
 - ii. Law of conservation of momentum
 - iii. Frictional force

- 5. Vectors**
 - i. Vector representation
 - ii. Vector addition and subtraction
 - iii. Multiplication of a vector by a number
 - iv. Trigonometric ratios
 - v. Resolution of vectors

- 6. Equilibrium**
 - i. Parallel forces
 - ii. Equilibrium of bodies

- 7. Circular Motion – Gravitation**
 - i. Circular motion
 - ii. Law of gravitation
 - iii. Motion of artificial satellites

- 8. Work, Power and Energy**
 - i. Work
 - ii. Power
 - iii. Energy
 - iv. Inter-conversion of kinetic and potential energy
 - v. Law of conservation of energy

9. **Simple Machines**
 - i. Simple machines
 - ii. Kinds of Simple Machines

10. **Properties of Matter**
 - i. Elasticity and Hooke's Law
 - ii. Properties of fluids at rest
 - iii. Surface tension and viscosity

11. **Thermal Physics**
 - i. Temperature and Heat
 - ii. Thermal expansion
 - iii. Specific heat capacity of solids and liquids
 - iv. Latent heat of fusion and vaporization
 - v. Transmission of heat

PRACTICALS

For Class IX (marks 10)

1. To measure the length and diameter of a solid cylinder with vernier calipers
2. To measure the thickness of a metal strip or a wire by using a screw gauge
3. To study the motion of a ball rolling down an angle iron by drawing a graph between s and t^2
4. To find the value of 'g' by freefall method
5. To determine the co-efficient of sliding friction using a horizontal plane
6. To determine the resultant of two vectors graphically by (Gravesand's apparatus)
7. To verify the principle of moments by using a meter rod balanced on a wedge
8. To determine the mechanical advantage of an inclined plane
9. To determine the mechanical advantage of a fixed pulley and moveable pulley
10. To study the relationship between load and extension (Helical spring) by drawing a graph
11. To find the density of a body heavier than water by Archimedes principle
12. To find the specific heat of a given solid by method of mixture
13. To draw a graph between temperature and time when ice is converted into water and then to steam by slow heating

RECOMMENDED REFERENCE BOOKS FOR CLASS IX

The question paper will be syllabus oriented. However, the following books are recommended for reference and supplementary reading:

1. Physics
Punjab Textbook Board, Lahore
2. Physics
National Book Foundation, Islamabad
3. Physics
Sindh Textbook Board, Jamshoro
4. Physics
NWFP Textbook Board, Peshawar
5. Physics
Baluchistan Textbook Board, Quetta



Federal Board SSC-I Examination
Physics Practical Model Question Paper

Time: 2 hours

Marks: 10

Note: Perform any ONE of the following practicals.

Q.1 Calculate the volume of a given solid cylinder by vernier calipers. **(6)**

Q.2 Determine the resultant of two vectors graphically by Gravesand's Apparatus. **(6)**

Q.3. Find the density of a body heavier than water by Archimedes principle. **(6)**

Viva Voce **(2)**

Note Book **(2)**