

**PHYSICS**  
For Class X (marks 65)

**1. Wave Motion**

- i. Simple Harmonic Motion
- ii. Waves
- iii. Properties of waves
- iv. Stationary waves

**2. Sound**

- i. Sound waves
- ii. Speed of sound
- iii. Ultra-sonics

**3. Spherical Mirrors and Lenses**

- i. Reflection of light
- ii. Mirror formula
- iii. Refraction
- iv. Total internal reflection
- v. Refraction through a prism
- vi. Rainbow
- vii. Lens formula
- viii. Defects in lenses
- ix. Defects of vision

**4. Electrostatics**

- i. Electric Charge
- ii. Coulomb's force, Electric intensity
- iii. Electrostatic potential
- iv. Capacitors and capacitance
- v. Different types of capacitors

**5. Current Electricity**

- i. Electric current
- ii. Potential difference and e.m.f.
- iii. Ohm's law
- iv. Resistance
- v. Galvanometer, Ammeter, voltmeter
- vi. Joule's law, D.C and A.C
- vii. Dangers of electricity
- viii. Safe use of electricity in home

**6. Electromagnetism**

- i. Magnetic effect of a steady current
- ii. Force on a current carrying conductor in a magnetic field. D.C. motor
- iii. Electromagnetic induction
- iv. A.C generator

- v. Mutual induction and self induction
- 7. Atomic and Nuclear Physics**
- i. Atomic structure
  - ii. Natural radioactivity
  - iii. Half life
  - iv. Radio isotopes
  - v. Einstein mass-energy equation
  - vi. Nuclear fission and fusion
- 8. Electronics**
- i. Electronics
  - ii. Semi conductors
  - iii. Logics of electronics
- 9. Information Technology**
- i. Information Technology
  - ii. Communicating Information
  - iii. Storing Information
  - iv. Handling Information

## **PRACTICALS**

For Class X (marks 10)

1. To study the effect of the length of a simple pendulum on time period and hence find 'g' by calculation
2. To determine the speed of sound at room temperature by using a resonance tube
3. To determine the focal length of a concave mirror by parallax method using (i) one needle, (ii) two needles
4. To verify the laws of Refraction by using a glass slab
5. To find the refractive index of water by using a concave mirror
6. To determine the critical angle of glass using a semi circular slab and a light ray box/or by a prism
7. To trace the path of a ray of light through a glass prism and measure the angle of deviation
8. Verify Ohm's law (by using a wire as conductor)
9. To study resistors in series and in parallel combination
10. To find the resistors of a galvanometer by half deflection method
11. To trace a magnetic field using a bar magnet
12. To trace the magnetic field due to a current carrying circular coil
13. To study characteristics of P-N junction
14. To verify truth table of OR and AND gates

## **RECOMMENDED REFERENCE BOOKS FOR CLASS X**

The question papers 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-II Examination  
Physics Practical Model Question Paper

Time: 2 hours

Marks: 10

Note: Perform any ONE of the following practicals.

Q.1 Verify the laws of Refraction by using a glass slab. (6)

Q.2 Verify Ohm's Law by using a wire as conductor. (6)

Q.3. Verify truth table of OR and AND gates. (6)

Viva Voce (2)

Note Book (2)