

SYLLABUS FOR PRELIMINARY EXAMINATION FOR RECRUITMENT TO THE POST OF ASSISTANT MASTER/MISTRESS IN PHYSICS

Full Marks : 100

Time : 1 hour 30 minutes

1. Classical Mechanics :

Newton's laws of motion; Mechanics of a single particle; Rotational Motion; Gravitation.

2. General Properties of matter :

Elasticity; Surface Tension; Viscosity.

3. Vibrations and Waves :

Simple Harmonic Motion; General Wave Equations; Vibrations of Strings.

4. Heat :

Kinetic theory of gases; Equations of state; Brownian Motion.

5. Thermodynamics :

First and second Laws Entropy, Thermodynamic Functions.

6. Optics :

Geometrical Optics; eye pieces; physical optics; Interference; Diffraction, resolving power, polarisation.

7. Electricity and Magnetism :

Magnetic effects of currents
Varying currents
Alternating currents.

8. Electronics :

P – n Junctions, transistors and uses.

9. Modern Physics :

Bohr's theory
Millikan's experiment
X-rays, Moseleys Laws, Bragg reflection
Radio-activity, alpha, beta, gamma rays.
