Part 1: 45 Multiple Choice – 1 Mark Each

- These consist of short calculation questions and concept questions of all topics.
- This section should be completed within an hour.

Part 2: 10 Work Problems – 5 Marks Each – Below lists the main concept of each question.

1. Finding the resultant of four vectors using a scale diagram.

2. Standing wave.

3. Thin lens equation

4. Lens & Magnification Equation

5. Snell's Law and Index of Refraction

6. Motion: Velocity and Acceleration

7. Motion: Velocity and Acceleration

8. Lens Maker's Formula

9. Lens Maker's Formula (from a scale diagram)

10. Written Short Answer Problem (waves)

- Vectors
  - Resultant using a scale diagram
  - Resultant using analytical methods
- Kinematics
  - Graphical analysis of displacement, velocity, and acceleration
- Waves
  - Types
  - Properties
  - Wave equation, standing waves
- Sound
  - Doppler Shift (conceptual only)
  - Characteristics
  - Speed calculations
- EM Radiation
  - Be familiar with properties
- Refraction
  - Index of refraction
  - Snell's Law
  - Critical angle
- Lenses
  - Image properties of lenses
  - Thin Lens equation
  - Magnification Equation
  - Lens maker's formula

Required Materials

- Pencils, erasers
- Protractor
- Scientific calculator
- 10cm Ruler with mm divisions

Given Materials

- Formula sheet
- Answer booklet