

PART - I**Q.2** Write short answers to any FIVE (5) questions: 10

- i Define least count. What is the least count of a meter rod?
- ii Define base quantities and derived quantities.
- iii How do the prefixes micro, nano and pico relate to each others?
- iv What is the relation between force and momentum?
- v What is co-efficient of friction?
- vi Write two methods of reducing friction.
- vii What is meant by gravitational field strength, write its value on earth?
- viii Why it is said that gravitational force is a non-contact force?

Q.3 Write short answers to any FIVE (5) questions: 10

- i Define graph and write its uses.
- ii When is a body said to be at rest?
- iii Why vector quantities can not be added and subtracted like scalar quantities?
- iv If mass of 5 litre of water is 5 kg, calculate its density.
- v Define hydrometer and write its uses.
- vi Why does the atmospheric pressure vary with height?
- vii Define green house effect.
- viii What is meant by convection current?

Q.4 Write short answers to any FIVE (5) questions: 10

- i Describe resolution of force.
- ii Define centre of mass.
- iii Narrate name of states of equilibrium.
- iv Define heat and electrical energy.
- v Write two methods by which nuclear energy is released.
- vi What is wind energy? Write its uses.
- vii What do you mean by upper and lower fixed points of thermometer?
- viii Define latent heat of fusion.

PART - II**Note:** Attempt any TWO questions.**Q.5(a)** State and explain Newton's third law of motion with examples.**(b)** The gravitational force between two identical lead spheres kept at 1m apart is 0.006673 N. Find their masses.**Q.6(a)** Explain in detail the types of motion.**(b)** The head of a pin is a square of side 20mm, find the pressure on it due to a force of 40N.**Q.7(a)** Define energy and write a note on three forms of energy.**(b)** Find the magnitude and direction of a force, if its x-component is 12N and y-component is 5N.