



Standard - 11

PHYSICS

Maximum Marks: 70

Allowed: 3 Hours

PART - I

1. Answer all the questions. 15×1=15
 2. Choose the appropriate answer from the given four alternatives and write the option code and the corresponding answer.

The density of a material in CGS system is 4g cm^{-3} . In a system of units in which unit of length is 10cm and units in mass is 100g, then the density of material will be

- a) 0.04 b) 0.4 c) 40 d) 400
 If an object is falling from a height of 20m, then the time taken by the object to reach the ground (ignore air resistance and taken $g = 10\text{ms}^{-2}$) is,
 a) 2s b) 1.732s c) 1.532s d) 1.414s
 A simple pendulum is suspended from the roof of a school bus which moves in a horizontal direction with an acceleration 'a', then the time period is,

- a) $T = \sqrt{g^2 + a^2}$ b) $T = \frac{1}{g^2 + a^2}$
 c) $T = \frac{1}{\sqrt{g^2 + a^2}}$ d) $T = g^2 + a^2$

A body of mass 1 kg is thrown upward with velocity 20ms^{-1} . It momentarily comes to rest after attaining a height of 12m. How much energy is lost due to air friction? (Take $g = 10\text{ms}^{-2}$),

- a) 20 J b) 30 J c) 40 J d) 10 J
 A rigid body rotates with an angular momentum L. If its kinetic energy is halved, the angular momentum becomes

- a) L b) $\frac{L}{2}$ c) 2L d) $\frac{L}{\sqrt{2}}$

The energy consumed in electrical units when a blow fan is used for 8 hours daily for one month (30 days) is,

- a) 14 units b) 8 units c) 16 units d) 20 units
 If the acceleration due to gravity becomes four times its original value, then escape speed
 a) became halved b) remains same
 c) 4 times of original value d) 2 times of original value

The dimensional formula for strain is,

- a) $ML^{-1}T^{-1}$ b) $ML^{-1}T^2$ c) $ML^{-1}T^{-2}$ d) MLT^2

Which of the P.V diagram corresponds to isobaric expansion



If the temperature and pressure of a gas is doubled the mean free path of the gas molecules,

- a) tripled b) remains same c) quadrupled d) doubled
 In a simple harmonic oscillation, the acceleration against displacement for one complete oscillation will be
 a) an ellipse b) a circle c) a parabola d) a straight line
 The first three frequencies of a closed organ pipe will be in the ratio,
 a) 1:2:3 b) 1:3:5 c) 1:4:9 d) 2:4:6
 Human audible range of wavelength is (velocity of sound in air = 340ms^{-1})
 a) 17m to 170m b) 0.17m to 17m
 c) 0.017m to 17m d) 1.7m to 17m

