

Note: There are **THREE** sections in this paper i.e. A, B & C. Attempt section A and return it to the superintendent within the given time.

(Version-C)

Time: 20 Min

SECTION - A

Marks: 12

Q.No.1: You have four choices for each objective type question as (A), (B), (C) and (D). The choice which you think is correct fill that circle in front of the question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

- i. The relation between coefficient of linear and volume expansion is.
- (A) $\alpha = 3\gamma$ (B) $\gamma = 3\alpha$ (C) $\gamma = \frac{\alpha}{2}$ (D) $\gamma = 6\alpha$
- ii. In gases, heat is mainly transferred by
- (A) Conduction (B) Convection (C) Radiation (D) Both A & B
- iii. A measuring cylinder is used to measure
- (A) Mass (B) Area (C) Volume (D) Level of liquid
- iv. A car starts from rest. It acquires a speed of 25ms^{-1} after 20s. The distance moved by the car during this time is
- (A) 31.25 m (B) 250 m (C) 500 m (D) 5000 m
- v. A body moving with uniform velocity. What will be its acceleration?
- (A) Uniform (B) Zero (C) 10ms^{-2} (D) -10ms^{-2}
- vi. Force needed to produce an acceleration of 10ms^{-2} in a ball of mass 0.5 Kg is
- (A) 20 N (B) 10.5 N (C) 9.5 N (D) 5 N
- vii. The weight of body is 147 N. Its mass will be _____ when $g = 9.8\text{ms}^{-2}$.
- (A) 14.7 N (B) 1.47 N (C) 15 N (D) 15.7 N
- viii. The unit of torque is ;
- (A) Nm^{-2} (B) Ncm (C) Nm^{-1} (D) Nm
- ix. The orbital speed of geostationary communication satellite is _____.
- (A) 3.07Kms^{-1} (B) 3.07Kmh^{-1} (C) 30.7Kms^{-1} (D) 30.7Kmh^{-1}
- x. The radius of the earth r_E is
- (A) 9.8 m (B) $6.67 \times 10^{-11}\text{m}$ (C) $6 \times 10^{24}\text{m}$ (D) $6.4 \times 10^6\text{m}$
- xi. A 2 Kg hammer head moving with a speed of 4ms^{-1} has a kinetic energy of _____.
- (A) 32 J (B) 16 J (C) 8 J (D) 4 J
- xii. The unit of strain is
- (A) Kgm^{-3} (B) Pa (C) Nm^{-2} (D) None