

Time Allowed: 3 Hrs

Marks: 65

Note: There are **Three Sections** in this paper i.e. A, B and C. Attempt Section A and return it to the Superintendent within the given time. No marks will be awarded for **Cutting, Erasing and Overwriting**.

Mobile Phone is strictly prohibited in Examination Hall.

Time: 20 Minutes

SECTION "A"

Marks: 12

Q.1. Choose the correct option and shade one of (A, B, C, D) in the given **Bubble Answer Sheet**.

- i. The number 0.0005 can be written in scientific notation as:

(A) 5×10^{-3}	(B) 5×10^{-4}	(C) 5×10^{-6}	(D) 5×10^{-7}
------------------------	------------------------	------------------------	------------------------
- ii. The distance time graph is a straight line parallel to time axis. This shows that the object is:

(A) Stationary	(B) Moving with uniform speed	(C) Moving with variable speed	(D) Moving with uniform acceleration
----------------	-------------------------------	--------------------------------	--------------------------------------
- iii. The force of 10N acts on a body of mass 2kg. The acceleration produced in the body is:

(A) 2ms^{-2}	(B) 5ms^{-2}	(C) 10ms^{-2}	(D) 20ms^{-2}
-----------------------	-----------------------	------------------------	------------------------
- iv. A body moving with uniform velocity towards East experiences:

(A) Net force towards east	(B) Net force towards west	(C) Zero net force	(D) Net force towards south
----------------------------	----------------------------	--------------------	-----------------------------
- v. The first condition of equilibrium ensures no change in;

(A) Translational motion	(B) Rotational motion	(C) Vibrational motion	(D) Distance
--------------------------	-----------------------	------------------------	--------------
- vi. A force of 50N is applied to open a door at a distance of 0.3m from hinges. The torque produced about hinges is:

(A) 5 Nm	(B) 10 Nm	(C) 15 Nm	(D) 20 Nm
----------	-----------	-----------	-----------
- vii. If F_{12} and F_{21} are the gravitational forces exerted by two bodies of masses 3kg and 5kg on each other. Identify the correct relation from the following.

(A) $F_{12} < F_{21}$	(B) $F_{12} > F_{21}$	(C) $F_{12} = -F_{21}$	(D) $F_{12} = 3F_{21}$
-----------------------	-----------------------	------------------------	------------------------
- viii. The component of force perpendicular to displacement does:

(A) Positive work	(B) Negative work	(C) Positive and maximum work	(D) Zero work
-------------------	-------------------	-------------------------------	---------------
- ix. The energy consumed by a 100w bulb in 20 hours is:

(A) 1 kwh	(B) 2 kwh	(C) 10 kwh	(D) 20 kwh
-----------	-----------	------------	------------
- x. The pressure exerted by a liquid at a point depends on:

(A) Liquid density only	(B) Depth below top surface only	(C) Both density and depth	(D) Shape of container
-------------------------	----------------------------------	----------------------------	------------------------
- xi. The property of material that changes uniformly with changes in temperature is called:

(A) Heat	(B) Thermometric property	(C) Internal energy	(D) Thermometer
----------	---------------------------	---------------------	-----------------
- xii. The poorest conductor of heat among the following is:

(A) Iron	(B) Brass	(C) Aluminum	(D) Water
----------	-----------	--------------	-----------