ONE MARK MODEL QUESTION PAPER 2022 - 2023

TIME: 15 minutes SUB: PHYSICS STD: XI

Total mark : 15 m Exam Date : .....

SECTION — A (15 X 1 = 15 M)

I. Multi Choice Question..

1.One of the combinations from the fundamental physical constants is hc/G .

The unit of this expression is

a) kg2 b) m 3 c) s -1 d) m

2. If the force is proportional to square of velocity, then the dimension of proportionality constant is

a) [MLT0] b) [MLT-1] c) [ML-2T] d) [ML-1T0]

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

a) 0.04 b) 0.4 c) 40 d) 400

4. Which of the following pairs of physical quantities have same dimension?

a) force and power

b) torque and energy

c) torque and power

d) force and torque

5.. If the error in the measurement of radius is 2%, then the error in the determination of volume of the sphere will be

a) 8% b) 2% c) 4% d) 6%

6. If the length and time period of an oscillating pendulum have errors of 1% and 3% respectively then the error in measurement of acceleration due to gravity is

a) 4% b) 5% c) 6% d) 7%

7. If a particle has negative velocity and negative acceleration, its speed

(a) increases (b) decreases (c) remains same (d) zero

8. Which one of the following physical quantities cannot be represented by a scalar?

(a) Mass (b) length (c) momentum (d) magnitude of acceleration

9. When an object is at rest on the inclined rough surface,

(a) static and kinetic frictions acting on the object is zero

(b) static friction is zero but kinetic friction is not zero

(c) static friction is not zero and kinetic friction is zero

(d) static and kinetic frictions are not zero

10. When the object is moving at constant velocity on the rough surface,

(a) net force on the object is zero

(b) no force acts on the object

(c) only external force acts on the object

(d) only kinetic friction acts on the object .

11. Choose the correct statement from the following

(a) Centrifugal and centripetal forces are action reaction pairs

(b) Centripetal forces is a natural force

(c) Centrifugal force arises from gravitational force

(d) Centripetal force acts towards the center and centrifugal force appears to act away from the center in a circular motion

12. If a person moving from pole to equator, the centrifugal force acting on him

(a) increases

(b) decreases

(c) remains the same

(d) increases and then decreases

13. The potential energy of a system increases, if work is done

(a) by the system against a conservative force

(b) by the system against a nonconservative force

(c) upon the system by a conservative force

d)) upon the system by a nonconservative force

14. Two equal masses m1 and m2 are moving along the same straight line with velocities 5ms-1 and -9ms-1 respectively. If the collision is elastic, then calculate the velocities after the collision of m1 and m2, respectively

(a) -4 ms-1 and 10 ms-1

(b) 10ms-1 and 0 ms-1

(c) -9ms-1 and 5 ms-1

(d) 5 ms-1 and 1 ms^{-1}

15. A particle undergoes uniform circular motion. Th e angular momentum of the particle remain conserved about,

(a) the center point of the circle.

(b) the point on the circumference of the circle.

(c) any point inside the circle.

(d) any point outside the circle

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