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Reg.No. | | | | | | |

COMMON FIRST REVISION TEST - 2020

STANDARD - XI

Time : 3.00 hrs **Physics** **Marks: 70**

Part - I

Note: Answer all the questions. **15 x 1 = 15**

1. The work done by the conservative force for a cloud path is
   a) always negative b) zero c) always positive d) not defined
2. An object of mass 10kg is hanging on a spring scale which is attached to the roof of a lift. If the lift is in free fall, the reading in the spring scale is
   a) 98N b) zero c) 49N c) 9.8N
3. The linear momentum and the position vector of the planet is perpendicular each other at
   a) perihelion and aphelion b) at all points c) only at perihelion d) no point
4. If the temperature of the wire is increased, then the Young's modulus will
   a) remain the same b) decrease c) increase rapidly d) increase by a very small amount
5. The efficiency of a heat engine working between the freezing point and boiling point of water is
   a) 6.25% b) 20% c) 26.8% d) 12.5%
6. The ratio $r = \frac{C_p}{C_v}$ for a gas mixture consisting of 8g of helium and 16g of oxygen is
   a) 23/15 b) 15/23 c) 27/11 d) 17/27
7. The damping force on an oscillator is directly proportional to the velocity. the units of the constant of propertionality are a) Kg ms^{-1} b) $Kgms^{-2}$ c) Kgs^{-1} d) Kgs
8. The length of a second's pendulum on the surface of the earth is 0.9m. The length of the same pendulum on the surface of the planet X, such that the acceleration of the planet X is n times greater than the earth is
   a) 0.9n b) $\frac{0.9}{n}$ m c) $0.9n^2$m d) $\frac{0.9}{n^2}$
9. If the error in the measurement of radius is 2%, then the error in the determination of volume of the sphere is a) 8% b) 2% c) 4% d) 6%
10. If $\pi = 3.14$, then the value of π^2 is a) 9.8596 b) 9.860 c) 9.86 d) 9.9
11. Identify the unit vector in the following
    a) $\hat{i} + \hat{j}$ b) $\frac{\hat{i}}{\sqrt{2}}$ c) $\frac{\hat{k} - \hat{j}}{\sqrt{2}}$ d) $\frac{\hat{i} + \hat{j}}{\sqrt{2}}$
12. If a particle executes uniform circular motion in the xy plane in clockwise directions, then the angular velocity is in
    a) +Y direction b) +Z direction c) -Z direction d) -X direction
13. If a stone of mass 0.5kg tied to a string executes uniform circular motion with a speed of $2ms^{-1}$ of radiius 2m, then the magnitude of tensional force acting on the stone is
    a) 1N b) 0.333N c) 2N d) 0.5N
14. The centrifugal force appear to exist
    a) only in inertial frames b) only in rotating frames
    c) in any accelerated frame d) both in inertial and non-inertial frames