Objective Type Questions & Answers

Select the best answer for the following MCQs:

1. The work done will be negative of the angle between $\vec{F}$ and $\vec{d}$ is.

a. 0°   b. 45°   c. 90°   d. 180°

2. The dimensions of power are,

a. MLT^{-1} b. ML^2T^{-2} c. ML^2T^{-1} d. ML^2T^{-3}

3. A field in which the work done in moving a body along a closed path is zero is called.

a. electric field   b. nuclear field

c. electromagnetic field   d. conservative field

4. Which of the following force cannot do any work on the particle on which it acts,

a. frictional force   b. gravitational force

c. electrostatic force   d. centripetal force

5. If a body of mass 1 kg is raised vertically through 2 m then the work done will be

a. 19.6 J   b. 39.2 J   c. 9.8 J   d. 4.9 J

6. The relationship between horse power and watt is,

a. 1 hp = 546 watt   b. 1 hp = 646 watt   c. 1 hp = 746 watt   d. 1 hp = 846 watt

7. The kinetic energy of m = 2 kg moving with a velocity of 4 ms⁻¹ has K.E equal to

a. 4J   b. 8J   c. 12J   d. 16J

8. The scalar product of force and velocity is,

a. work   b. power   c. momentum   d. energy

9. The consumption of energy is 60-watt bulb is,

a. 30 J   b. 60 J   c. 90 J   d. 120 J

10. The escape velocity on the surface of the Earth is given by the formula,

a. $\sqrt{gR_e}$ b. $\sqrt{\frac{1}{2}gR_e}$ c. $\sqrt{2gR_e}$ d. $\sqrt{\frac{3}{4}gR_e}$

11. The ratio between orbital speed and escape velocity is,

a. $\frac{1}{\sqrt{2}}$ b. 1   c. $\sqrt{2}$ d. 2

12. 25000 watt power is equal to,

a. 30.5 hp   b. 33.5 hp   c. 38.5 hp   d. 40 hp

13. The dimensions of impulse are the same as that of,

a. work   b. energy   c. power   d. momentum

14. Tarbela Dam on a river produces electricity,

a. 1600 megawatt   b. 1750 megawatt

c. 1850 megawatt   d. 1900 megawatt

15. The energy stored in a dam is,

a. PE   b. KE   c. heat energy   d nuclear energy

16. Solar cells are made from the material called,

a. carbon   b. hydrocarbon   c. iron   d. silicon

17. One kilowatt hour is equal to,

a. 3.6 MJ   b. 7.2 MJ   c. 10.8 MJ   d. 14.4 MJ

18. If the speed of the moving body is doubled its KE is.

a. halved   b. doubled   c. unchanged   d. four times

19. Earth receives a large amount of energy directly from,

a. wind   b. moon   c. sun   d. water

20. Solar energy at normal incidence outside the Earth's atmosphere is about,

a. 1.4 KWm^2 b. 1.6 KWm^2 c. 1.8 KWm^2 d. 1 KWm^2