

Physics General Science Test Hard Mode

Sr	Questions	Answers Choice
1	The half life of a radio-isotope is 5 years The fraction of atoms decayed in this substance after 15 years will be	A. 1 B. 3/4 C. 7/8 D. 5/8
2	A person standing on a rotating platform has his hands lowered He suddenly outstretches his arms.The angular momentum	A. Becomes zero B. Increases C. Decreases D. Remains the same
3	Two forces are acting together on an object. The magnitude of their resultant is minimum when the angle between the force is.	A. 0° B. 60° C. 120° D. 180°
4	The average power dissipation in a pure capacitor in AC circuit is	A. $\frac{1}{2} CV^2$ B. CV^2 C. $2CV^2$ D. Zero
5	Copper and germanium are cooled to 70 K from room temperature then	A. Resistance of copper increases while that of germanium decreases B. Resistance of copper decreases while that of germanium increases C. Resistance of both decreases D. Resistance of both increases
6	Two masses of 1 g and 4 g are moving with equal kinetic energies The ratio of the magnitudes of their linear moments is:	A. 4 : 1 B. $\sqrt{2}$: 1 C. 1 : 2 D. 1 : 16
7	Which of the following is not thermo dynamical function?	A. Enthalpy B. Work done C. Gibb's energy D. Internal energy
8	A voltmeter has resistance of 2000 ohms and it can measure up to 2V. If we want to increase its range to 10V then required resistance in series will be	A. 2000Ω B. 4000Ω C. 6000Ω D. 8000Ω
9	According to the Hooke's law the force required to change the length of a wire by 'l' is proportional to	A. l^{-2} B. l^{-1} C. l D. l^2
10	The fundamental unit which has same power in the dimensional formula of surface tension and viscosity is:	A. Mass B. Length C. Time D. None
11	Velocity of sound in a diatomic as is 300 m/sec what is its rms velocity	A. 400 m/sec B. 40 m/sec C. 430 m/sec D. 300 m/sec
12	The temperature at which the speed of sound becomes double as was at 27°C is	A. 273°C B. 0°C C. 927°C D. 1027°C
13	In which case dose the potential energy decreases?	A. On compressing a spring B. On stretching s spring C. One moving a body against gravitational force D. One the rising of an air bubble in water
14	In an L-R circuit time constant is that time in which current grows from zero to the value	A. $0.63 I$ B. $0.50 I$ C. $0.70 I$ D. $0.37 I$

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15 A wire is stretched to double of its length. The strain is

- A. 2
- B. 1
- C. Zero
- D. 0.5

16 In a common base transistor circuit the current gain is 0.98. On changing the emitter current by 5.00 mA, the change in collector current is:

- A. 0.196 mA
- B. 2.45 mA
- C. 4.9 mA
- D. 5.1 mA

17 What remains constant in the field of central force?

- A. Potential energy
- B. Kinetic energy
- C. Angular momentum
- D. Linear momentum

18 The acceleration 'a' in m/s^2 of a particle is given by $a = 3t^2 + 2t + 2$, where 't' is the time if the particle starts out with a velocity $v = 2 \text{ m/s}$ at $t = 0$, then the velocity at the end of 2 second is

- A. 12 m/s
- B. 24 m/s
- C. 18 m/s
- D. 36 m/s

19 To make the frequency double of an oscillator we have to

- A. Double the mass
- B. Half the mass
- C. Quadruple the mass
- D. Reduce the mass to one-fourth

20 A ten-ohm electric heater operates on a 110 V line. Calculate the rate at which it develops heat in watts:

- A. 1310 W
- B. 670 W
- C. 810 W
- D. 1210 W