

ECAT Physics Online Test

Sr	Questions	Answers Choice
1	The input resistance of the OP-AMP is the resistance between the	A. (-) input and output B. (+) input and output C. (-) and (+) inputs D. between any inputs
2	To get a resultant displacement of 10 m, two displacement vectors of magnitude 6 m and 8 m should be combined	A. Parallel B. Antiparallel C. At angle 60° D. Perpendicular to each other
3	Two point charges A and B separated by a distance R attract each other with a force of $12 \times 10^{-3} \text{N}$. The force between A and B when the charges on them are doubled and distance is halved	A. 1.92 N B. 19.2 N C. 12 N D. 0.192 N
4	For the working of a heat engine, there must be	A. a source of heat at high temperature B. a sink at low temperature C. both of them D. none of them
5	Graphs which are used to illustrate the variation of velocity of an object with time are called	A. distance time graphs B. speed time graphs C. velocity time graphs D. acceleration time graphs
6	Most OP-AMP operates with	A. 6 V supply B. 10 V supply C. 12 V supply D. 24 V supply
7	The size of the domain is such that they can contain	A. 10^{20} atoms B. 10^{24} atoms C. 10^{28} atoms D. 10^{32} atoms
8	Waves transport energy	A. without transport energy B. with matter C. both of them D. none of them
9	Equal charges are given to two spheres of different radii. The potential will	A. Be more on the smaller sphere B. Be more on the bigger sphere C. Be equal on both the sphere D. Depend on the nature of the material of the sphere
10	The force experienced by an electron projected in a magnetic field B with a velocity V is given by	A. $F = e(V \times B)$ B. $F = -e(V \times B)$ C. $F = e(B \times V)$ D. Both a and c
11	According to Einstein, with the great increase in the speed of the body, the relativistic mass of the body	A. Remains constant B. Decreases C. Increases to infinity D. Reduced to zero
12	The mass of a body measured by a physical balance in a lift at rest is found to be m, if the lift is going up with an acceleration a, its mass will be measured as	A. $m(1 - a/g)$ B. $m(1 + a/g)$ C. m D. Zero
13	Electric field lines emerge from the charges in	A. One dimension B. Two dimensions C. Three dimensions D. Four dimensions E. None of these

14	First law of thermodynamics is consequence of conservation of	B. Energy C. Heat D. All of these
15	An object thrown upward with an initial velocity at certain angle with the horizontal and moving freely under the action of gravity is called	A. a rocket B. an aeroplane C. a projectile D. a ballon
16	The special theory of relatively treats the problems involving:	A. Inertial frames of reference B. Non-inertial frames C. Non-accelerated frame D. Botha (A) and (C) E. Both (B) and (C)
17	The force of repulsion between two point charges is F, when these are at a distance 0.1 m apart. Now the point charges are replaced by sphere of radii 5 cm each having the same charge as that of the respective point charges. The distance between their centre is again kept 0.1 m ; then the force of repulsion will	A. Increase B. Decrease C. Remain F D. Become 10F/9
18	Data transmitted along glass-fiber cables is in the form of pulses of monochromatic red light each of duration 2.5 ns. Which of the following is the best estimate of the number of wavelength in each pulse?	A. 10^{3} B. 10^{6} C. 10^{9} D. 10^{12}
19	A physical system under going forced vibrations is known as	A. Simple harmonic oscillator B. Compound harmonic oscillator C. Physical harmonic oscillator D. driven harmonic oscillator
20	At high altitude the blood oozes out of the nose and ear because	A. The blood pressure increase at high altitudes B. The percentage of oxygen in the air increase C. The atmospheric pressure decrease there D. The density of blood decrease at high altitudes