ECAT Physics Online Test

Sr	Questions	Answers Choice
1	For an atom having atomic number 'Z' and atomic weight 'A', the number of neutrons in the nucleous is	A. A - Z B. A C. Z D. A + Z
2	The sum of the magnitude of two forces acting at a point is 18 and the magnitude of their resultant is 12. If the resultant is at 90° with the force of the smaller magnitude, then their magnitudes are	A. 3, 15 B. 4, 14 C. 5, 13 D. 6, 12
3	When radioactive nucleus emits aβ-particle, the proton-neutron ratio	A. decrease B. increase C. same D. none of these
4	Some charge is being given to a conductor. Then its potential	A. Is maximum at surface B. Is maximum at centre C. Is remain same throughout the conductor D. Is maximum somewhere between surface and centre
5	Force is a:	A. Scalar quantity B. Base quantity C. Derived quantity D. None of these
6	Density of fluid is defined as:	A. Its volume to mass ratio B. Product of volume and mass C. Its mass of volume ratio D. None of these
7	Back emf is produced due to	A. Self induction B. Mutual induction C. A.C D. Lenz's law
8	During the upward motion of the projectile, the vertical component of velocity.	A. Decreases B. Increases C. Remains constant D. None of these
9	The emitter-base junction of a transistor is forward-biased and collector-base junction is reverse-biased. If the base current is increased, its	A. I_cwill decrease B. V_{CE}will increase C. I_Cwill increase D. V_{CC}will increase
10	The chemical properties of all the isotopes of an elements are	A. same B. different C. slightly different D. none of these
11	Progressive waves of frequency 300 Hz are superimposed in produced a system of stationary waves in which adjacent nodes are 1.5 m apart. What is the speed of the progressive waves?	A. 100 ms⁻¹ B. 200 ms⁻¹ C. 450 ms⁻¹ D. 900 ms⁻¹
12	The horizontal component of a projectile moving with initial velocity of 500 ms^{-1}at an angle 60° to x-axis is	A. 500 ms⁻¹ B. 1000 ms⁻¹ C. 250 ms⁻¹ D. Zero
13	Pressure applied at any point of gas at rest is transmitted equally to all parts of the gas. This is the statement of:	A. Newton's second law B. Pascal's law C. Carnot theorem D. Second law of thermodynamics
14	The induced current in the loop can be Increased by	A. Using a stronger magnetic field B. Moving the loop faster C. Replacing the loop by a coil of many turns D. All above E. Both A and B
		A. Up trust of air

15	The velocity of falling raindrop attains limited value because of	B. Viscous force exerted by air C. Surface tension effect D. Air currents atmosphere
16	Neutron was discovered in	A. 1915 B. 1920 C. 1925 D. 1932
17	If the velocity of the body decreases non-uniformly then the slope of the velocity-time graph will have	A. different values B. same values C. zero valves D. constant valves
18	The relationship between Boltzmann constant k with R and N_Ais given as:	A. k = RN_A B. k =R/N_A C. k = NR/N_A D. None of these
19	A coil of constant area is placed in a constant magnetic field. An induced current is produced in the coil when	A. The coil is distorted B. The coil is rotated C. The coil is neither distorted nor rotated D. Both A and B E. None of these
20	A square loop of wire is moving through a uniform magnetic field. The normal to the loop is oriented parallel to the magnetic field. The emf induced in the loop is:	A. Zero B. Of smaller magnitude C. Of larger magnitude D. Sometimes B, sometimes C E. Neither of these