ECAT Physics Online Test

Sr	Questions	Answers Choice
1	A point charge A of charge +4μC and another B of charge -1μC are placed in air at a distance 1 m apart. Then the distance of the point on the line joining the charge B, where the resultant electric field is zero, is (in m)	A. 2 B. 1 C. 0.5 D. 1.5
2	The passage of current is accompanied by a magnetic field in the surrounding space:	A. Always accompanied<o:p></o:p> B. Sometimes accompanied<o:p></o:p> C. Never accompanied<o:p></o:p> D. Any of above <o:p></o:p> E. None of these<o:p></o:p>
3	The projectile attains maximum horizontal range when it is projected at an angle of	A. 30° B. 45° C. 60° D. 75°
4	Truth table of logic function:	A. Summarizes its output values B. Tabulates all its input conditions only C. Display all its input/output possibilites D. Is not based on logic algebra E. None of these
5	A field free region is found:	A. <span style="font-size:12.0pt;line-height:107%;font-family: "Times New Roman","serif";mso-fareast-font-family:"Times New Roman";mso-fareast-theme-font: minor-fareast">Near the outer surface of a hollow charged metal sphere<o:p></o:p> B. <span style="font-size:12.0pt;line-height:107%;font-family: "Times New Roman","serif";mso-fareast-font-family:"Times New Roman";mso-fareast-theme-font: minor-fareast">In the interior of solid metal uncharged sphere<o:p></o:p> C. <span style="font-size:12.0pt;line-height:107%;font-family: "Times New Roman","serif";mso-fareast-

		font-family:"Times New Roman";mso-fareast-theme-font: minor-fareast">In the interior of solid metal charged sphere<o:p></o:p> D. <span style="font-size:12.0pt;line-height:107%;font-family: "Times New Roman","serif";mso-fareast-font-family:"Times New Roman";mso-fareast-theme-font: minor-fareast">Both (A) and (B)<o:p></o:p> E. <span style="font-size:12.0pt;line-height:107%;font-family: "Times New Roman","serif";mso-fareast-font-family:"Times New Roman";mso-fareast-theme-font: minor-fareast">Both (A) and (C)<o:p></o:p>
6	Plan of a coil makes an angle of 20° with the lines of magnetic field. The angle between B and vector area of plane of coil is:	A. Also 20° <o:p></o:p> B. 70° <o:p></o:p> C. 90° <o:p></o:p> D. 180° <o:p></o:p> E. None of these
7	As the current flows through the wire	A. It generates heat in the wire B. It produces sound in the wire C. Resistance of the wire decrease D. Voltage across the ends is the increase E. None of these
8	The direction of velocity is along the direction of	A. distance B. displacement C. acceleration D. all of them
9	Inertial frame of references are those frame of references which are moving with	A. increasing velocity B. decreasing velocity C. constant velocity D. all of them
10	The electrons in the outermost shell of an atom are called	A. core electrons B. valence electrons C. high energy electrons D. none of them
11	An emf is set up in a conductor when it:	A. Is kept in a magnetic field B. Is kept in an electric field C. Moves across a magnetic field D. Both A and B E. None of these
12	The product of cross-sectional area of the pipe and the fluid speed at any point along the pipe is called	A. constant rate B. volume rate C. flow rate D. steady rate
		A. <span style="font-size:12.0pt;

13	Amperean path is a:	line-height:107%;font-family:"Times New Roman","serif"">Closed path<o:p></o:p> B. Rectangular path<o:p></o:p> C. Circular path<o:p></o:p> D. Any of above<o:p></o:p> E. Broken path<o:p></o:p>
14	Range of a projectile is R, when the angle of projection is 30° . Then, the value of the other angle of projection for the same range, is	A. 45° B. 60° C. 50° D. 40°
15	The value of relative permittivity of different dielectrics are	A. Equal B. Different C. Greater than one D. Smaller than one E. Both B and C
16	Nucleon means:	A. Only electrons B. Only neutrons C. Only protons D. Both (A) and (C) E. Both (B) and (C)
17	If one volt is needed to cause a current of one ampere to flow in a conductor, its resistance is	A. one ohm B. one joule C. one volt D. one ampere
18	The highest efficiency of a heat engine whose low temperature is 17°C and the high temperature is 200°C is	A. 70% B. 100% C. 35% D. 38%
19	The ohm's is defined as	A. 1 ampere / 1 volts B. 1 coulomb / 1 volt C. 1 volt / 1 ampere D. 1 volt / 1 coulomb
20	The consumption of energy by a 1000 watt heter in half an hour is:	A. 5 Kwh B. 0.5 Kwh C. 2.5 Kwh D. 3.2 Kwh