

## ECAT Pre General Science Physics Chapter 14 Electromagnetism Online Test

Sr	Questions	Answers Choice
1	The voltage increases linearly with	A. time B. velocity C. acceleration D. torque
2	How many number of anodes used in electron gun	A. one B. two C. three D. six
3	Electron gun consist of	A. three anodes B. heating cathode C. three anodes D. three anodes , heating cathode, grid
4	A beam of electrons is provided by an	A. electron gun B. Suppray C. Injection D. None of these
5	Flurescent screen is a screen where visible spot	A. vanishes B. is made C. becomes small and large D. none of these
6	The CRO deflects the beam of electrons, when they passes through uniform	A. electric field B. gravitational field C. magnetic flax D. magnetic field
7	CRO deflects the beam of	A. proton B. a-particle C. electron D. neutron
8	(CRO) Cathode ray oscilloscope is a device used for high speed	A. velocity B. graph plotting C. time-velocity D. none of these
9	A magnetic force on an electron travelling with $10^8 \text{ms}^{-1}$ parallel to a field of strength $1 \text{ Wb m}^{-2}$ is	A. Zero B. $10^{15} \text{m}$ C. $10^{-10} \text{N}$ D. $10^{18} \text{N}$
10	The magnetic force exerted on an electron moving with velocity 'v' at right angle to the magnetic field is given by	A. $F=eVB$ B. $F=e^2V/B$ C. $F=eVB$ D. $F=B^2V/ev$
11	A charged particle moving at right angle to the magnetic field will experience	A. minimum force B. maximum force C. zero D. moderate force
12	When charged particle is projected perpendicular to a uniform magnetic field its trajectory is	A. circular B. elliptical C. cycloid D. straight line
13	Charge to mass ratio (e/m) of an electron is given by the relation	A. $e/m = 2V/Br^2$ B. $e/m = 2V/B^2r$ C. $e/m = 2V/B^2r^2$ D. $e/m = V/2B^2r^2$
14	The e/m of an electron moving in a circular path in a magnetic field is equal to	A. $V/Br$ B. $V/B^2r^2$ C. $V^2/B^2r^2$ D. $V^2/B^2r$

A.  $mv^2/r$

15	Centripetal force for electron is given by	B. $\frac{mv^2}{r}$ C. $\frac{mv^2}{r}$ D. $\frac{mr^2}{v}$
16	When an electron enters in a magnetic field right angle to its motion, the magnitude of its velocity will be	A. changed B. zero C. unchanged D. none of these
17	In the expression of force experienced by electron, the direction of both $\underline{v}$ and $\underline{B}$ are	A. parallel B. zero C. perpendicular D. none of them
18	If volume of wire is 'AL' and there are 'n' numbers of charge carriers per unit volume, then the total number of charge carriers are	A. $n/AL$ B. $AL/n$ C. $nAL$ D. $nAL$
19	Lorentz force is defined as	A. $q(\underline{E} + \underline{V} \times \underline{B})$ B. $q(\underline{E} \times \underline{B} + \underline{V})$ C. $q(\underline{E} \times \underline{V} + \underline{B})$ D. $q(\underline{E} \times \underline{B})$
20	The force experienced by charged particle is maximum, if it moves	A. parallel to magnetic field B. perpendicular to magnetic field C. opposite to the magnetic field D. none of these
21	41 The force experience, when proton projected in a magnetic field with velocity 'v' is	A. $+e(\underline{v} \times \underline{B})$ B. $-C(\underline{V} \times \underline{B})$ C. $+e^2(\underline{v} \times \underline{B})$ D. $-e(\underline{v} \times \underline{B})$
22	The force experienced by an electron projected in a magnetic field B with a velocity V is given by	A. $F=e(\underline{V} \times \underline{B})$ B. $F=-e(\underline{V} \times \underline{B})$ C. $F=e(\underline{B} \times \underline{V})$ D. Both a and c
23	The force experienced by a single charge carrier moving with velocity 'v' i magnetic field of strength 'B' is given by	A. $F=q(\underline{v}/B)$ B. $F=q^2(\underline{v} \times \underline{B})$ C. $F=q(\underline{v} \times \underline{B})$ D. $F=v \times B$
24	When current passes through a solenoid coil, it behaves like a	A. loop B. circle C. bar magnet D. none of these
25	The strength of magnetic field around the current conductor is	A. Smaller near the conductor B. Greater near the conductor C. Greater at the large distance from the conductor D. Constant near and away from the conductor
26	The magnetic field outside the solenoid due to current is	A. strong B. zero C. weak D. uniform
27	Which one of the following relations is correct?	A. $1 \text{ Wb-m}^2 = \text{Nm}$ B. $1 \text{ tesla} = 104 \text{ gauss}$ C. $1 \text{ Wb-m}^2 = 1 \text{ tesla}$ D. All of the above
28	The magnetic field in the middle of a solenoid due to current is	A. weak B. strong and uniform C. none-uniform D. zero
29	The SI unit of magnetic permeability is	A. $\text{WB A}^{-1}\text{m}^{-1}$ B. $\text{WB mA}^{-1}$ C. $\text{WB Am}^{-1}$ D. None of these
30	Tesla is the unit of	A. Magnetic induction or flux density B. Magnetic flux C. Self inductance D. None of these