ECAT Pre General Science Physics Chapter 14 Electromagnetism Online Test

Sr	Questions	Answers Choice
1	The sources of magnetic field are	A. isolated magnetic poles B. charges at rest C. charges in motion D. none of these
2	The field around a moving charge is called	A. magnetic field B. conservative field C. non-conservative field D. none of these
3	The most suitable material for permanent magnet is	A. cobalt B. iron C. steel D. alaminium
4	The direction of lines of force depends upon the direction of	A. voltage B. current C. charges D. none of these
5	In a straight current carrying conductor, the direction of magnetic field can be found by	A. right hand rule B. left hand rule C. head to tall rule D. none of these
6	A current carrying conductor is placed at right angle to the magnetic field. The magnetic force experienced by the conductor is	A. minimum B. maximum C. zero D. none of these
7	'K' is the proportionality constant of force experienced by conductor. What is the value of 'K' in SI units?	A. 0 B. 1 C. 0.5 D. -1
8	The force acting on a charge moving in a magnetic field	A. is perpendicular to the both magnetic field and direction of motion B. is proportional to the magnetic of charges C. vanishes when the motion is directly opposite to the direction of field D. all of the above
9	Gauss(G) is smaller unit of magnetic induction which is related to tesla(T) as	A. IT = 10⁻⁴G B. IT = 10⁵G C. IT = 10³G D. IT = 10⁴G
10	The force acting as one meter length of the conductor placed at right angle to the magnetic field, when one A current is passing through it, defines the	A. magnetic flux B. magnetic induction C. magnetic field D. self inductance
11	The SI unit of magnetic induction is tesla which is equal to	A. Newton/ampere-meter or N/A-m B. Newton/ampere²-meter or N/A²-m C. Newton/ampere²-meter² or N/A²-m² D. Newton/ampere²-meter²or N/A²-m²
12	A meter wire carraying a current of 2A is at right angle to the uniform magnetic field of 0.5 Weber/m^2The force on the wire is	A. 5N B. 4N C. 1.5N D. 6N
13	A relationship between Gauses of magnetic induction and Tesla(T) is given by	A. G 10⁻³T B. G = 10⁻²T C. G = 10⁻⁴T D. G = 10⁻¹T
14	The SI unit of magnetic induction is	A. Gauses B. Tesla C. Weber

		D. Weber²
15	The force exerted on a conductor of length L, carrying current I when placed in a magnetic field B is given by	A. F=IB/L B. F= L x B/I C. F = IL x B D. F = IL . B
16	If current through conductor is 1 A and length of conductor is 1m placed at right angle to the magnetic field, then the strength of magnetic field is	A. F = B² B. F = 0 C. F = B D. F = B/2
17	The SI unit of magnetic flux is	A. NmA⁻² B. NmA⁻¹ C. NAm⁻¹ D. Nm²A⁻¹
18	Magnetic flux and flux density are related by	A. Flux density = flux x area B. Flux density = flux / area C. Flux density = flux - area D. None of these
19	Weber is a unit of	A. magnetic flux B. magnetic filed intensity C. magnetic induction D. magnetic flux density
20	The unit of magnetic flux is	A. Weber-m² B. Weber-m³ C. Henry D. Weber
21	The total number of lines of magnetic induction pasing through a surface perpendicular to the magnetic field is called	A. magnetic flux B. magnetic flux density C. magnetic induction D. magnetic field intensity
22	The SI unit of magnetic flux is.	A. weber B. Nm⁻¹A⁻¹ C. tesla D. gauss
23	The straight current carrying conductor experiences maximum force in a uniform magnetic field when it is placed	A. parallel to the field B. Perpendicular to the field C. At an angle of 45 to the field D. None of the above
24	The SI unit of flux density is	A. Newton/Amp-meter B. Newton-m/Ampere C. Newton-m/Amp² D. Newton-Amp/meter
25	The unit of flux density is also given by	A. Weber/m²or Wb . m⁻² B. Weber/mor Wb . m C. Weber/mor Wb . m⁻¹ D. Weber or Wb
26	The SI unit of flux density is.	A. Tesla B. Weber C. Gaun D. Weber/meter
27	Tesla is the unit of	A. Magnetic induction or flux density B. Magnetic flux C. Self inductance D. None of these
28	The SI unit of magnetic permeability is	A. WB A⁻¹m⁻¹ B. WB mA⁻¹ C. WB Am⁻¹ D. None of these
29	The magnetic field in the middle of a solenoid due to current is	A. weak B. strong and uniform C. none-uniform D. zero
30	Which one of the following relations is correct?	A. 1 Wb-m²= Nm⁻¹A⁻¹ B. 1 tesla = 104 gausses C. 1 Wb-m²= 1 tesla D. All of the above
31	The magnetic field outside the solenoid due to current is	A. strong B. zero C. weak D. uniform

32	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
33	When current passes through a solenoid coil, it behaves like a	A. loop B. circle C. bar magnet D. none of these
34	The force experienced by a single charge carrier moving with velocity 'v' i magnetic field of strength 'B' is given by	A. F =q(v/B) B. F=q²(v x B) C. F=q(v x B) D. F= vx B
35	The force experienced by an electron projected in a magnetic field B with a velocity V is given by	A. F=e(V x B) B. F= -e(V x B) C. F= e(B x V) D. Both a and c
36	41 The force experience, when proton projected in a magnetic field with velocity 'v' is	A. +e(v x B) B. -C(V x B) C. +e²(v x B) D. -e(v²x B)
37	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
38	Lorentz force is defined as	A. q(E + V x B) B. q(E x B + V) C. q(E x V + B) D. q(E x B)
39	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. nA/L
40	In the expression of force experienced by electron, the direction of both v and B are	A. parallel B. zero C. perpendicular D. none of them
41	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
42	Centripetal force for electron is given by	A. mv²/ r B. mv / r² C. mv²/ r D. mr²/ v
43	The e/m of an electron moving in a circular path in a magnetic field is equal to	A. V/Br B. V/B²r² C. V²/Br² D. V²/Br
44	Charge to mass ratio (e/m) of an electron is given by the relation	A. e/m = 2V/Br² B. e/m = 2V/B²r C. e/m = 2V/B²r² D. e/m = V/2B²r²
45	When charged particle is projected perpendicular to a uniform magnetic field its trajectory is	A. circular B. elliptical C. cycloid D. straight line
46	A charged particle moving at right angle to the magnetic field will experience	A. minimum force B. maximum force C. zero D. moderate force
47	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=e²V/B C. F=e/VB D. F=B²/ev
48	A magnetic force on an electron travelling with $10^8 ms^{-1}$ parallel to a field of strength 1 Wb m^{-2} is	A. Zero B. 10⁵m C. 10⁻¹⁰N D. 10⁸N
49	(CRO) Cathode ray oscilloscope is a device used for high speed	A. velocity B. graph plotting C. time-velocity

		D. none of these
50	CRO deflects the beam of	A. proton B. a-particle C. electron D. neutron
51	The CRO deflects the beam of electrons, when they passes through uniform	A. electric field B. gravitational field C. magnetic flax D. magnetic field
52	Flurescent screen is a screen where visible spot	A. vanishes B. is made C. becomes small and large D. none of these
53	A beam of electrons is provided by an	A. electron gun B. Suppray C. Injection D. None of these
54	Electron gun consist of	A. three anodes B. heating cathode C. three anodes D. three anodes , heating cathode, grid
55	How many number of anodes used in electron gun	A. one B. two C. three D. six
56	The voltage increases linearly with	A. time B. velocity C. acceleration D. torque
57	The CRO is used for displaying the waveform of a given	A. current B. voltage C. both of them D. none of them
58	When the waveform of one voltage is increasing and that of second is decreasing and vice versa, then phase difference between these voltage is	A. 90° B. 75° C. 0° D. 180°
59	The gavanometer constant of a moving coil galvanometer is given by	A. K=BAN/C B. K=BN/CA C. K=NAC/B D. K=C/BAN
60	F = I(L x B) is a	A. vector B. scalar C. unit vector D. none of these
61	The vector representation of force experience give the direction of	A. magnetic field B. current C. length of conductor D. force
62	The current sensitivity of the galvanometer is	A. C/BAN B. BAN/C C. CAN/B D. CBN/A
63	A galvanometer is an instrument used to	A. measure voltage across a circuit B. detect current in a circuit C. measure current flowing through a circuit D. none of these
64	The galvanometer can be made sensitive if the value of the factor C/BAN is	A. constant B. small C. large D. none of these
65	To convert galvanometer into ammeter we connect	A. small resistance in parallel with galvanometer B. small resistance in series with galvanometer C. high resistance in series with galvanometer D. high resistance in parallel with galvanometer

		D. high resistance in parallel with galvanometer
66	The working of all DC electric meters (galvanometers, ammetersand voltmeters) depends upon	A. Heating effect of current B. Chemical effect of current C. Magnetic effect of current D. Electromagnetic effect of current
67	Galvanometer is a device used for the detection of	A. voltage B. current C. temperature D. pressure
68	The working of galvanometer depends upon torque exerted on a current carrying coil in	A. magnetic field B. electric field C. gravitational field D. nuclear field
69	For the conversion of galvanometer into voltmeter, we connect a	A. small resistance in series with galvanometer B. small resistance in parallel with galvanometer C. high resistance in parallel with galvanometer D. high resistance series with galvanometer
70	In a moving coil galvanometer, the deflecting couple depends upon	A. area of the coil B. number of turns of coil C. value of magnetic field D. all of the above
71	A shunt resistance parallel to the galvanometer is used to convert it into	A. avometer B. millimeter C. voltmeter D. none of these
72	The angle of deflection of coil can be measured by the	A. one method B. three method C. two method D. none of these
73	If the value of galvanometer constant k = C/BAN is made small, the galvanometer can be made	A. Sensitive B. Accurate C. Stable D. None of these
74	Method "lamp and scale arrangement" used to measure the	A. angle of deflection B. restoring torque C. magnetic field strength D. current
75	The torque per unit twist of coil is called	A. proportionality constant B. gravitational constant C. boltzman constant D. coupling constant
76	The current in microamperes required to produce one millimeter deflection on a scale placed one meter away from the mirror of the galvanometer, defined the sensitivity of	A. ammeter B. voltmeter C. galvanometer D. avo-meter
77	A galvanometer in which the coil comes to rest quickly after the current passed through it, or the current stopped form flowing through it, is called	A. dead beat galvanometer B. stable galvanometer C. shunt galvanometer D. sensitive galvanomter
78	Ammeter is used to measure	A. voltage B. resistance C. voltage and current D. current
79	The current is measured in	A. volts B. watt C. ampere D. ohm
80	A full-scale deflection is obtained in a galvanometer with a current of few	A. ampere B. volts C. milliampere D. ohm
81	For measuring large currents, an ordinary galvanometer cannot be used without proper, then both relates with each other as	A. modification B. voltage C. current D. resistance
82	A voltmeter is used to measure the	A. potential difference B. current C. temperature D. resistance
83	Which is modified form of galvanometer	A. potentiometer B. battery C. voltmeter

		C. voltmeter D. slide wire bridge
84	In order to make a voltmeter, high resistance is connected with galvanometer, in	A. perpendicular B. may be paralled or pendicular C. series D. none of these
85	A resistance used in voltmeter is called	A. shunt resistance B. high resistance C. low resistance D. zero resistance
86	When a suitable small resistance is put in parallel with the galvanometer coil, it is converted into	A. Voltmeter B. Avometer C. Ammeter D. None of these
87	A resistance used in galvanometer to make it voltmeter is called	A. shunt resistance B. high resistance C. zero resistance D. none of these
88	Avo-meter is used of measure the	A. current, voltage B. voltage, resistance C. resistance, current D. current, voltage and resistance
89	Resistance is measured in	A. volts B. ampere C. ohm D. watt
90	Current is measured in	A. volts B. watt C. ohm D. ampere
91	When some compass needles are placed on a card board along a circle with the center at the wire, they will	A. <p class="MsoNormal" style="text- align:justify">Point the direction of N-S<o:p></o:p> B. Set themselves tangential to the circle<o:p></o:p> C. Point in the direction of E-W<o:p></o:p> D. None of these<o:p></o:p> E. Point in direction of S-E
92	In the region surrounding a current carrying wire:	A. A magnetic field is setup <o:p></o:p> B. The lines of force are elliptical<o:p></o:p> C. Direction of lines of forces depends upon direction of current<o:p></o:p> D. Both (A) and (C)<o:p></o:p> E. All of these
		A. <span style="font-size:12.0pt; line-

93	A current carrying conductor sets up its own:	height:107%;font-family:"Times New Roman","serif"">Electric field<o:p></o:p> B. Nuclear field<o:p></o:p> C. Magnetic field<o:p></o:p> D. Both (A) and (C)<o:p></o:p> E. All of these
94	It is customary represent a current flowing towards the reader by a symbol	A. (x) B. (+) C. (.) D. (-) E. (÷) <o:p></o:p>
95	The pointer of a magnetic compass:	A. Is affected only by permanent magnets<o:p></o:p> B. Align itself parallel to the applied magnetic field<o:p></o:p> C. Vibrates in the magnetic field of the current<o:p></o:p> D. Aligns itself perpendicular to the magnetic field<o:p></o:p> E. Both (C) and (D)
96	magnetic field is a:	A. Vector quantity<o:p></o:p> B. Scalar quantity<o:p></o:p> C. Scalar as well as scalar quantity<o:p></o:p> D. Any of (A) or (B)<o:p></o:p> E. Neither (A) nor (B)
		A. Cannot intersect at all<o:p></o:p> B. Intersect at infinity<o:p></o:p>

97	Magnetic lines of force:	C. Intersect within magnet<o:p></o:p> D. Intersect at Neutral Point<o:p></o:p> E. None of these
98	the current is pass through the straight wire. The magnetic field established around it has its lines of force:	A. Circular and endless<o:p></o:p> B. Oval in shape and endless<o:p></o:p> C. Straight<o:p></o:p> D. Parabolic<o:p></o:p> E. All are true
99	if the field is directed along the normal to the area, then flux is:	A. Maximum<o:p></o:p> B. Equal to zero<o:p></o:p> C. Equal to BA<o:p></o:p> D. Minimum<o:p></o:p> E. Both (A) and (C)<o:p></o:p>
100	Magnetic induction is also called as:	A. Ampere’s law<o:p></o:p> B. Faraday’s law<o:p></o:p> C. Lenz’s law<o:p></o:p> D. Newton’s law<o:p></o:p> E. Coulomb’s law<o:p></o:p>
		A. <p class="MsoNormal" style="text-

		align:justify">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>
101	Amperean path is a:	
102	A solenoid is a coil of wire which is:	A. Short, loosely wound, cylindrical<o:p></o:p> B. Long, tightly wound, spherical<o:p></o:p> C. Long, loosely wound, cylindrical<o:p></o:p> D. Long, tightly wound, cylindrical<o:p></o:p> E. None of these<o:p></o:p>
103	A field is uniform and much stronger:	A. Inside a long solenoid<o:p></o:p> B. Outside a long solenoid<o:p></o:p> C. At the end of a long solenoid<o:p></o:p> D. At the central point of long solenoid<o:p></o:p> E. None of these<o:p></o:p>
104	In the formula B = μ nI the symbol n denotes:	A. Total number of turns of solenoid<o:p></o:p> B. Number of turns per unit length<o:p></o:p> C. <span style="font-size:12.0pt; line-

104	In the formula $B = \mu_0 nI$, the symbol n denotes:	height:107%;font-family:"Times New Roman","serif"">Number of turns per unit volume<o:p></o:p> D. Numbers of turns per unit area<o:p></o:p> E. Number of moles<o:p></o:p>
105	Hold the solenoid in the right hand with fingers curling in the direction of current. The direction of the field will be given by:	A. Thumb<o:p></o:p> B. Curled fingers<o:p></o:p> C. Middle finger<o:p></o:p> D. Arm of right hand<o:p></o:p> E. None of these<o:p></o:p>
106	Total number of turns on 0.15 m length solenoid is 300. the value of n is:	A. Greater than 300 B. Smaller than 300 C. Equal to 300 D. Any of (A) or (B) E. Any of (A) or(C)
107	The magnetic field inside a solenoid can be increased by:	A. Increasing n B. Decreasing I C. Increasing I D. By using iron core within solenoid E. All correct except (B)
108	If the number of turns of a solenoid (carrying a steady current I) is doubled without changing the length of a solenoid, then magnetic field:	A. Becomes Half B. Becomes double C. Is not affected D. Becomes one fourth E. None of these
109	The permeability of free space is measured in:	A. Wb/Am B. Wb A/m C. Am/Wb D. m/Web A E. None of these
110	Strength of magnetic field is measured in SI units, in:	A. N B. N/Am C. Am/N D. Nm/A E. None of these
111	NmA^{-1} is commonly called:	A. Weber B. Apmere C. Guass D. Coulomb E. None of these
112	At a given instant, a photon moves in +x direction in a region where there magnetic field in -z direction. The magnetic force on the proton will be the:	A. -y direction B. +y direction C. +z direction D. -z direction E. None of these
	Magnetic flux passing through a element whose vector area makes an angle()^{o}	A. BACosΘ <o:p></o:p>

113	Magnetic flux passing through a element whose vector area makes an angle with lines of magnetic force is:	</p> B. Zero C. BA D. BA sin<span style="font-size:12.0pt;line-height:107%; font-family:"Times New Roman","serif";mso-fareast-font-family:Calibri; mso-fareast-theme-font:minor-latin;mso-ansi-language:EN-US;mso-fareast-language: EN-US;mso-bidi-language:AR-SA">Θ E. None of these
114	Magnetic flux passing through the an element of are A placed perpendicular to a uniform magnetic field Bis:	A. Maximum B. Minimum C. Zero D. Very small E. None of these
115	A long wire wound tightly on a cylindrical core is called:	A. Potentiometer B. Solenoid C. Toroid D. Wheat and stone bridge E. None of these
116	When the charged particle is projected at right angles to the field, then experienced by it will be:	A. Maximum B. Zero C. qvB D. Both (A) and (B) E. Both (A) and (C)