ECAT Pre General Science Physics Chapter 14 Electromagnetism Online Test

Sr	Questions	Answers Choice
1	Centripetal force for electron is given by	A. mv²/ r B. mv / r² C. mv²/ r D. mr²/ v
2	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
3	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
4	The current is measured in	A. volts B. watt C. ampere D. ohm
5	Magnetic flux passing through a element whose vector area makes an angle0^{o} with lines of magnetic force is:	A. BACosΘ <o:p></o: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
6	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
7	A meter wire carraying a current of 2A is at right angle to the uniform magnetic field of 0.5 Weber/m^{2}The force on the wire is	A. 5N B. 4N C. 1.5N D. 6N
8	The field around a moving charge is called	A. magnetic field B. conservative field C. non-conservative field D. none of these
9	The torque per unit twist of coil is called	A. proportionality constant B. gravitational constant C. boltzman constant D. coupling constant
10	A resistance used in galvanometer to make it voltmeter is called	A. shunt resistance B. high resistance C. zero resistance D. none of these
11	A voltmeter is used to measure the	A. potential difference B. current C. temperature D. resistance
		A. Is affected only by permanent magnets<o:p></o:p> B. <p class="MsoNormal" style="text-

12	The pointer of a magnetic compass:	align:justify">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)
13	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>
14	The SI unit of magnetic permeability is	A. WB A⁻¹m⁻¹ B. WB mA⁻¹ C. WB Am⁻¹ D. None of these
15	Ammeter is used to measure	A. voltage B. resistance C. voltage and current D. current
16	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
17	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
18	Which is modified form of galvanometer	A. potentiometer B. battery C. voltmeter D. slide wire bridge
19	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
20	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)
		A. Ampere's law<o:p></o:p> B. <span style="font-size:12.0pt; line-height:107%;font-family:"Times New

21	Magnetic induction is also called as:	height:107%;font-family:"Times New Roman","serif"">Faraday's law<o:p></o:p> C. <span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman","serif"">Lenz's law<o:p></o:p> D. <span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman","serif"">Newton's law<o:p></o:p> E. <span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman","serif"">Coulomb's law<o:p></o:p>
22	When current passes through a solenoid coil, it behaves like a	A. loop B. circle C. bar magnet D. none of these
23	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)
24	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
25	CRO deflects the beam of	A. proton B. a-particle C. electron D. neutron
26	Avo-meter is used of measure the	A. current, voltage B. voltage, resistance C. resistance, current D. current, voltage and resistance
27	F = I(L x B) is a	A. vector B. scalar C. unit vector D. none of these
28	'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
29	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
30	The unit of magnetic flux is	A. Weber-m² B. Weber-m³ C. Henry D. Weber
31	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
32	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
33	Weber is a unit of	A. magnetic flux B. magnetic filed intensity C. magnetic induction D. magnetic flux density
34	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
35	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
36	(CRO) Cathode ray oscilloscope is a device used for high speed	A. velocity B. graph plotting C. time-velocity D. none of these
37	A full-scale deflection is obtained in a galvanometer with a current of few	A. ampere B. volts C. milliampere D. ohm
38	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
39	In the formula B= $\mu_0$nl, 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. 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>
40	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
41	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
42	A resistance used in voltmeter is called	A. shunt resistance B. high resistance C. low resistance D. zero resistance
43	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
44	The direction of lines of force depends upon the direction of	A. voltage B. current C. charges D. none of these
45	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
46	Magnetic lines of force:	A. Cannot intersect at all<o:p></o:p> B. Intersect at infinity<o:p></o:p> C. <span style="font-size:12.0pt; line-height:107%;font-family:"Times New

		Roman","serif"">Intersect within magnet<o:p></o:p> D. Intersect at Neutral Point<o:p></o:p> E. None of these
47	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
48	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>
49	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
50	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
51	The vector representation of force experience give the direction of	A. magnetic field B. current C. length of conductor D. force
52	Current is measured in	A. volts B. watt C. ohm D. ampere
53	The sources of magnetic field are	A. isolated magnetic poles B. charges at rest C. charges in motion D. none of these
54	Method "lamp and scale arrangement" used to measure the	A. angle of deflection B. restoring torque C. magnetic field strength D. current
55	The SI unit of magnetic flux is.	A. weber B. Nm⁻¹A⁻¹ C. tesla D. gauss
56	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
		A. Circular and endless<o:p></o:p> B. <span style="font-size:12.0pt; line-

57	the current is pass through the straight wire. The magnetic field established around it has its lines of force:	align:justify">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
58	When some compass needles are placed on a card board along a circle with the center at the wire, they will	A. 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
59	It is customary represent a current flowing towards the reader by a symbol	A. (x) B. (+) C. (.) D. (-) E. (÷) <o:p></o:p>
60	The magnetic field in the middle of a solenoid due to current is	A. weak B. strong and uniform C. none-uniform D. zero
61	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
62	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)
63	The voltage increases linearly with	A. time B. velocity C. acceleration D. torque
64	Galvanometer is a device used for the detection of	A. voltage B. current C. temperature D. pressure
65	NmA^{-1} is commonly called:	A. Weber B. Apmere C. Guass D. Coulomb E. None of these
66	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
	The magnetic force exerted on an electron moving with velocity v at right angle to	A. F=eVB B. F=e²V/B

67	The magnetic force exerted on an electron moving with velocity 'v' at right angle to the magnetic field is given by	B. F=e²v/B C. F=e/VB D. F=B²/ev
68	The CRO is used for displaying the waveform of a given	A. current B. voltage C. both of them D. none of them
69	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
70	The most suitable material for permanent magnet is	A. cobalt B. iron C. steel D. alaminium
71	Electron gun consist of	A. three anodes B. heating cathode C. three anodes D. three anodes , heating cathode, grid
72	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)
73	The magnetic field outside the solenoid due to current is	A. strong B. zero C. weak D. uniform
74	Resistance is measured in	A. volts B. ampere C. ohm D. watt
75	The angle of deflection of coil can be measured by the	A. one method B. three method C. two method D. none of these
76	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
77	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
78	The current sensitivity of the galvanometer is	A. C/BAN B. BAN/C C. CAN/B D. CBN/A
79	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
80	How many number of anodes used in electron gun	A. one B. two C. three D. six
81	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. <p class="MsoNormal" style="text-

		D. Both (A) and (C)<o:p></o:p> E. All of these
82	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
83	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
84	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
85	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
86	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
87	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>
88	The SI unit of magnetic flux is	A. NmA⁻² B. NmA⁻¹ C. NAm⁻¹ D. Nm²A⁻¹
89	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
90	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
91	Flurescent screen is a screen where visible spot	A. vanishes B. is made C. becomes small and large D. none of these
92	The CRO deflects the beam of electrons, when they passes through uniform	A. electric field B. gravitational field C. magnetic flax D. magnetic field
93	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

94	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
95	The SI unit of flux density is	A. Newton/Amp-meter B. Newton-m/Ampere C. Newton-m/Amp² D. Newton-Amp/meter
96	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
97	The SI unit of magnetic induction is	A. Gauses B. Tesla C. Weber D. Weber²
98	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°
99	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
100	A charged particle moving at right angle to the magnetic field will experience	A. minimum force B. maximum force C. zero D. moderate force
101	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
102	A beam of electrons is provided by an	A. electron gun B. Suppray C. Injection D. None of these
103	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
104	A current carrying conductor sets up its own:	A. 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
105	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

106	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
107	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)
108	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)
109	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
110	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
111	Tesla is the unit of	A. Magnetic induction or flux density B. Magnetic flux C. Self inductance D. None of these
112	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>
113	When charged particle is projected perpendicular to a uniform magnetic field its trajectory is	A. circular B. elliptical C. cycloid D. straight line
		A. <span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman","serif"">Closed path<o:p></o:p>

114	Amperean path is a:	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>
115	A shunt resistance parallel to the galvanometer is used to convert it into	A. avometer B. millimeter C. voltmeter D. none of these
116	The SI unit of flux density is.	A. Tesla B. Weber C. Gaun D. Weber/meter