

## Physics ECAT Pre Engineering Chapter 14 Electromagnetism Online Test

Sr	Questions	Answers Choice
1	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)
2	The current is measured in	A. volts B. watt C. ampere D. ohm
3	The CRO deflects the beam of electrons, when they passes through uniform	A. electric field B. gravitational field C. magnetic flux D. magnetic field
4	Charge to mass ratio ( $e/m$ ) of an electron is given by the relation	A. $e/m = 2V/B$ B. $e/m = 2V/B^2 r$ C. $e/m = 2V/B^2 r^2$ D. $e/m = V/2B^2 r^2$
5	In the formula $B = \mu_0 n l$ , the symbol $n$ denotes:	A. $\mu_0$ B. Total number of turns of solenoid C. Number of turns per unit length D. Number of turns per unit volume E. Number of turns per unit area F. Number of moles
6	A resistance used in voltmeter is called	A. shunt resistance B. high resistance C. low resistance D. zero resistance
7	The direction of lines of force depends upon the direction of	A. voltage B. current C. charges D. none of these
8	$F = I(L \times B)$ is a	A. vector B. scalar C. unit vector D. none of these
9	When charged particle is projected perpendicular to a uniform magnetic field its trajectory is	A. circular B. elliptical C. cycloid D. straight line
10	Gauss(G) is smaller unit of magnetic induction which is related to tesla(T) as	A. $IT = 10^{-4} G$ B. $IT = 10^{-5} G$ C. $IT = 10^{-3} G$ D. $IT = 10^{-4} G$
11	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

12 The SI unit of magnetic flux is.

- A. weber
  - B.  $\text{Nm}^{-1}$
  - C. tesla
  - D. gauss
- A. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%; font-family:"Times New Roman"; &quot;serif&quot;">Maximum<o:p></o:p></span></p>
- B. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%; font-family:"Times New Roman"; &quot;serif&quot;">Equal to zero<o:p></o:p></span></p>
- C. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%; font-family:"Times New Roman"; &quot;serif&quot;">Equal to BA<o:p></o:p></span></p>
- D. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%; font-family:"Times New Roman"; &quot;serif&quot;">Minimum<o:p></o:p></span></p>
- E. <p class="MsoNormal" style="text-align:justify"><span style="font-size: 12pt; line-height: 107%; font-family: &quot;Times New Roman&quot;; serif;">Both (A) and (C)<b><o:p></o:p></b></span></p>

13 if the field is directed along the normal to the area, then flux is:

14 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.  $10^8 \text{ m}$
- C.  $10^{-10} \text{ N}$
- D.  $10^8 \text{ N}$

15 Current is measured in

- A. volts
- B. watt
- C. ohm
- D. ampere

16 The sources of magnetic field are

- A. isolated magnetic poles
- B. charges at rest
- C. charges in motion
- D. none of these

17 A galvanometer in which the coil comes to rest quickly after the current passed through it, or the current stopped from flowing through it, is called

- A. dead beat galvanometer
- B. stable galvanometer
- C. shunt galvanometer
- D. sensitive galvanometer

18 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

19 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

20 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"><span style="font-size: 12pt; line-height: 107%; font-family: &quot;Times New Roman&quot;; serif;">Point the direction of N-S<b><o:p></o:p></b></span></p>
- B. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%; font-family:"Times New Roman"; &quot;serif&quot;">Set themselves tangential to the circle<o:p></o:p></span></p>
- C. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%; font-family:"Times New Roman"; &quot;serif&quot;">Point in the direction of E-W<o:p></o:p></span></p>
- D. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%; font-family:"Times New Roman"; &quot;serif&quot;">None of these<o:p></o:p></span></p>
- E. Point in direction of S-E

21 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

		D. Becomes one fourth E. None of these
22	The most suitable material for permanent magnet is	A. cobalt B. iron C. steel D. aluminium
23	Lorentz force is defined as	A. $q(E + V \times B)$ B. $q(E \times B + V)$ C. $q(E \times V + B)$ D. $q(E \times B)$
24	The SI unit of magnetic induction is	A. Gausse B. Tesla C. Weber D. $\text{Weber}^2$
25	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. $F = B^2$ B. $F = 0$ C. $F = B$ D. $F = B/2$
26	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
27	A field is uniform and much stronger:	A. <p class="MsoNormal" style="text-align:justify"><span style="font-size: 12pt; line-height: 107%; font-family: "Times New Roman"; serif;">Inside a long solenoid<b><o:p></o:p></b></span></p> B. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&quot;serif&quot;">Outside a long solenoid<o:p></o:p></span></p> C. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;;&quot;serif&quot;">At the end of a long solenoid<o:p></o:p></span></p> D. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;;&quot;serif&quot;">At the central point of long solenoid<o:p></o:p></span></p> E. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&quot;serif&quot;">None of these<o:p></o:p></span></p>
28	The total number of lines of magnetic induction passing through a surface perpendicular to the magnetic field is called	A. magnetic flux B. magnetic flux density C. magnetic induction D. magnetic field intensity
29	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
30	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
31	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 tail rule D. none of these
32	The unit of magnetic flux is	A. $\text{Weber} \cdot \text{m}^2$ B. $\text{Weber} \cdot \text{m}^3$ C. Henry D. Weber
33	Magnetic flux passing through a element whose vector area makes an angle $0^\circ$ with lines of magnetic force is:	A. $BA$ B. Zero C. RA

- Q. 34**
- D.  $BA \sin\theta$
- E. None of these
- 
- 34** 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
- 
- 35** 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
- 
- 36** A voltmeter is used to measure the
- A. potential difference  
B. current  
C. temperature  
D. resistance
- 
- 37** A current carrying conductor sets up its own:
- A. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%; font-family:&quot;Times New Roman&quot;,&quot;serif&quot;">Electric field</o:p></o:p></span></p>  
B. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%; font-family:&quot;Times New Roman&quot;,&quot;serif&quot;">Nuclear field</o:p></o:p></span></p>  
C. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%; font-family:&quot;Times New Roman&quot;,&quot;serif&quot;">Magnetic field</o:p></o:p></span></p>  
D. <p class="MsoNormal" style="text-align:justify"><span style="font-size: 12pt; line-height: 107%; font-family: &quot;Times New Roman&quot;,, serif;">Both (A) and (C)<b><o:p></o:p></b></span></p>  
E. All of these
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- 38** The galvanometer constant of a moving coil galvanometer is given by
- A.  $K=BAN/C$   
B.  $K=BN/CA$   
C.  $K=NAC/B$   
D.  $K=C/BAN$
- 
- 39** It is customary represent a current flowing towards the reader by a symbol
- A. (x)  
B. (+)  
C. (.)  
D. (-)
- 
- 40** '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
- 
- 41** Weber is a unit of
- A. magnetic flux  
B. magnetic field intensity  
C. magnetic induction  
D. magnetic flux density
- 
- 42** Resistance is measured in
- A. volts  
B. ampere  
C. ohm  
D. watt
- 
- 43** The current sensitivity of the galvanometer is
- A.  $C/BAN$   
B.  $BAN/C$   
C.  $CAN/B$   
D.  $CBN/A$
- 
- 44** 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), (B)

		D. Any of (A) or (B) E. Any of (A) or (C)
45	A shunt resistance parallel to the galvanometer is used to convert it into	A. avometer B. millimeter C. voltmeter D. none of these
46	The SI unit of magnetic induction is tesla which is equal to	A. Newton/ampere-meter or N/A-m B. Newton/ampere <sup>2</sup> -meter or N/A <sup>2</sup> -m C. Newton/ampere <sup>2</sup> -meter <sup>2</sup> or N/A <sup>2</sup> -m <sup>2</sup> D. Newton/ampere <sup>2</sup> -meter <sup>2</sup> or N/A <sup>2</sup> -m <sup>2</sup>
47	The vector representation of force experience give the direction of	A. magnetic field B. current C. length of conductor D. force
48	A charged particle moving at right angle to the magnetic field will experience	A. minimum force B. maximum force C. zero D. moderate force
49	A solenoid is a coil of wire which is:	A. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&quot;serif&quot;">Short, loosely wound, cylindrical<o:p></o:p></span></p> B. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&quot;serif&quot;">Long, tightly wound, spherical<o:p></o:p></span></p> C. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&quot;serif&quot;">Long, loosely wound, cylindrical<o:p></o:p></span></p> D. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12pt; line-height: 107%; font-family: "Times New Roman";&quot;serif;">Long, tightly wound, cylindrical<b><o:p></o:p></b></span></p> E. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&quot;serif&quot;">None of these<o:p></o:p></span></p>
50	41 The force experienced when proton projected in a magnetic field with velocity 'V' is	A. +e(v x B) B. -C(V x B) C. +e <sup>2</sup> (v x B) D. -e(v <sup>2</sup> B)
51	Ammeter is used to measure	A. voltage B. resistance C. voltage and current D. current
52	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
53	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
54	The SI unit of flux density is	A. Newton/Amp-meter B. Newton-m/Ampere C. Newton-m/Amp <sup>2</sup> D. Newton-Amp/meter
55	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
56	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

57	When a suitable small resistance is put in parallel with the galvanometer coil, it is converted into	A. Voltmeter B. Avometer <b>C. Ammeter</b> D. None of these
58	Magnetic induction is also called as:	A. <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size: 12pt; line-height: 107%; font-family: "Times New Roman"; serif;&gt;Ampere's law&lt;b&gt;&lt;o:p&gt;&lt;/b&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;,&amp;quot;serif&amp;quot;"&gt;Faraday's law&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;,&amp;quot;serif&amp;quot;"&gt;Lenz's law&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;,&amp;quot;serif&amp;quot;"&gt;Newton's law&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;,&amp;quot;serif&amp;quot;"&gt;Coulomb's law&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p>
59	Galvanometer is a device used for the detection of	A. voltage <b>B. current</b> C. temperature D. pressure
60	A relationship between Gauses of magnetic induction and Tesla(T) is given by	A. $G = 10^{-3} T$ B. $G = 10^{-2} T$ <b>C. <math>G = 10^{-4} T</math></b>
61	Which one of the following relations is correct?	D. $G = 10^{-1} T$ A. $1 \text{ Wb} \cdot \text{m}^2 = \text{Nm}^{-1} \cdot 10^{-1}$ B. 1 tesla = 104 gausses <b>C. <math>1 \text{ Wb} \cdot \text{m}^2 = 1 \text{ tesla}</math></b> D. All of the above
62	The torque per unit twist of coil is called	A. proportionality constant B. gravitational constant C. boltzman constant <b>D. coupling constant</b>
63	The strength of magnetic field around the current conductor is	A. Smaller near the conductor <b>B. Greater near the conductor</b> C. Greater at the large distance from the conductor D. Constant near and away from the conductor
64	$\text{Nm}^{-1}$ is commonly called:	A. Weber B. Apmere C. Guass D. Coulomb E. None of these
65	The working of galvanometer depends upon torque exerted on a current carrying coil in	<b>A. magnetic field</b> B. electric field C. gravitational field D. nuclear field
66	The angle of deflection of coil can be measured by the	A. one method B. three method <b>C. two method</b> D. none of these
67	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. $F = L \times B/I$ <b>C. <math>F = IL \times B</math></b> D. $F = IL \cdot B$
68	The galvanometer can be made sensitive if the value of the factor C/BAN is	A. constant <b>B. small</b> C. large D. none of these
69	The e/m of an electron moving in a circular path in a magnetic field is equal to	<b>A. <math>V/Br</math></b> B. $V/B^2 r^2$ C. $V^2 / Br^2$ D. $V^2 / Br$

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 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
72	The SI unit of magnetic permeability is	A. $\text{WB A}^{-1}$ B. $\text{mA}^{-1}$ C. $\text{Am}^{-1}$ D. None of these
73	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
74	The CRO is used for displaying the waveform of a given	A. current B. voltage C. both of them D. none of them
75	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. <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size: 12pt; line-height: 107%; font-family: "Times New Roman"; &amp;quot;serif;""&gt;Thumb&lt;b&gt;&lt;o:p&gt;&lt;/o:p&gt;&lt;/b&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;;&amp;quot;serif&amp;quot;&gt;Curled fingers&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;;&amp;quot;serif&amp;quot;&gt;Middle finger&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;;&amp;quot;serif&amp;quot;&gt;Arm of right hand&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;;&amp;quot;serif&amp;quot;&gt;None of these&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">A. Magnetic induction or flux density B. Magnetic flux C. Self inductance D. None of these</p>
76	Tesla is the unit of	A. <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size: 12pt; line-height: 107%; font-family: "Times New Roman"; &amp;quot;serif;""&gt;Cannot intersect at all&lt;b&gt;&lt;o:p&gt;&lt;/o:p&gt;&lt;/b&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;;&amp;quot;serif&amp;quot;&gt;Intersect at infinity&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;;&amp;quot;serif&amp;quot;&gt;Intersect within magnet&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size:12.0pt; line-height:107%;font-family:&amp;quot;Times New Roman&amp;quot;;&amp;quot;serif&amp;quot;&gt;Intersect at Neutral Point&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p> <p class="MsoNormal" style="text-align:justify">&lt;span style="font-family: &amp;quot;Times New Roman&amp;quot;; serif; font-size: 16px; text-align: justify;&gt;None of these&lt;/span&gt;</p> <p class="MsoNormal" style="text-align:justify">A. proton B. a-particle C. electron D. neutron</p>
77	Magnetic lines of force:	A. <p class="MsoNormal" style="text-align:justify">&lt;span style="font-size: 12pt; line-height: 107%; font-family: "Times New Roman"; &amp;quot;serif;""&gt;Vector quantity&lt;math&gt;\nabla\cdot\mathbf{B}&lt;/math&gt;</p> <p class="MsoNormal" style="text-align:justify">A. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size: 12pt; line-height: 107%; font-family: "Times New Roman"; &amp;quot;serif;""&gt;Vector quantity&lt;math&gt;\nabla\cdot\mathbf{B}&lt;/math&gt;</p>
78	CRO deflects the beam of	A. proton B. a-particle C. electron D. neutron

- 79 magnetic field is a:  
A.  $F = eVB$   
B.  $F = e \cdot v^2 / B$   
C.  $F = eV/B$   
D.  $F = B \cdot v^2 / e$   
E. Neither (A) nor (B)
- 
- 80 The magnetic force exerted on an electron moving with velocity 'v' at right angle to the magnetic field is given by  
A.  $F = eV/B$   
B.  $F = e \cdot v^2 / B$   
C.  $F = eV/B$   
D.  $F = B \cdot v^2 / e$
- 
- 81 Which is modified form of galvanometer  
A. potentiometer  
B. battery  
C. voltmeter  
D. slide wire bridge
- 
- 82 The magnetic field outside the solenoid due to current is  
A. strong  
B. zero  
C. weak  
D. uniform
- 
- 83 How many number of anodes used in electron gun  
A. one  
B. two  
C. three  
D. six
- 
- 84 A full-scale deflection is obtained in a galvanometer with a current of few  
A. ampere  
B. volts  
C. milliampere  
D. ohm
- 
- 85 The unit of flux density is also given by  
A.  $\text{Weber/m}^2$  or  $\text{Wb} \cdot \text{m}^{-2}$   
B. Weber/m or  $\text{Wb} \cdot \text{m}^{-1}$   
C. Weber/m or  $\text{Wb} \cdot \text{m}^{2/3}$   
D. Weber or  $\text{Wb}$
- 
- 86 The pointer of a magnetic compass:  
A. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;,&quot;serif&quot;">Is affected only by permanent magnets</o:p></span></p>  
B. <p class="MsoNormal" style="text-align:justify"><span style="font-size: 12pt; line-height: 107%; font-family: &quot;Times New Roman&quot;, serif;">Align itself parallel to the applied magnetic field<b><o:p></o:p></b></span></p>  
C. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;,&quot;serif&quot;">Vibrates in the magnetic field of the current</o:p></span></p>  
D. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;,&quot;serif&quot;">Aligns itself perpendicular to the magnetic field</o:p></span></p>  
E. Both (C) and (D)
- 
- 87 A beam of electrons is provided by an  
A. electron gun  
B. Suppray  
C. Injection  
D. None of these
- 
- 88 Method "lamp and scale arrangement" used to measure the  
A. angle of deflection  
B. restoring torque  
C. magnetic field strength  
D. current
- 
- 89 The field around a moving charge is called  
A. magnetic field  
B. conservative field  
C. non-conservative field  
D. none of these

90	A meter wire carrying a current of 2A is at right angle to the uniform magnetic field of 0.5 Weber/m <sup>2</sup> . The force on the wire is	<p>A. 5N B. 4N C. 1.5N D. 6N</p>
91	The force acting on a charge moving in a magnetic field	<p>A. is perpendicular to 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</p>
92	(CRO) Cathode ray oscilloscope is a device used for high speed	<p>A. velocity B. graph plotting C. time-velocity D. none of these</p>
93	Amperean path is a:	<p>A. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&amp;quot;serif&amp;quot;"&gt;Closed path&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt; B. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&amp;quot;serif&amp;quot;"&gt;Rectangular path&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt; C. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&amp;quot;serif&amp;quot;"&gt;Circular path&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt; D. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size: 12pt; line-height: 107%; font-family: &amp;quot;Times New Roman&amp;quot;; serif;"&gt;Any of above&lt;b&gt;&lt;o:p&gt;&lt;/o:p&gt;&lt;/b&gt;&lt;/span&gt;&lt;/p&gt; E. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&amp;quot;serif&amp;quot;"&gt;Broken path&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p>
94	Avo-meter is used to measure the	<p>A. current, voltage B. voltage, resistance C. resistance, current D. current, voltage and resistance</p>
95	the current is passing through the straight wire. The magnetic field established around it has its lines of force:	<p>A. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size: 12pt; line-height: 107%; font-family: &amp;quot;Times New Roman&amp;quot;; serif;"&gt;Circular and endless&lt;b&gt;&lt;o:p&gt;&lt;/o:p&gt;&lt;/b&gt;&lt;/span&gt;&lt;/p&gt; B. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&amp;quot;serif&amp;quot;"&gt;Oval in shape and endless&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt; C. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&amp;quot;serif&amp;quot;"&gt;Straight&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt; D. &lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&amp;quot;serif&amp;quot;"&gt;Parabolic&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt; E. All are true</p>
96	The force experienced by charged particle is maximum, if it moves	<p>A. parallel to magnetic field B. perpendicular to magnetic field C. opposite to the magnetic field D. none of these</p>
97	A resistance used in galvanometer to make it voltmeter is called	<p>A. shunt resistance B. high resistance C. zero resistance D. none of these</p>
		<p>A. &lt;span style="font-family: &amp;quot;Times New Roman&amp;quot;; serif; font-size: 12pt; text-align: justify;"&gt;A magnetic field is setup&lt;/span&gt;&lt;p class="MsoNormal" style="text-align:justify"&gt;&lt;span style="font-size:12.0pt; line-height:107%;font-family:"Times New Roman";&amp;quot;serif&amp;quot;"&gt;&lt;o:p&gt;&lt;/o:p&gt;&lt;/span&gt;&lt;/p&gt;</p>

98	In the region surrounding a current carrying wire:	B. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;,&quot;serif&quot;">The lines of force are elliptical<o:p></o:p></span></p> C. <p class="MsoNormal" style="text-align:justify"><span style="font-size:12.0pt; line-height:107%;font-family:&quot;Times New Roman&quot;,&quot;serif&quot;">Direction of lines of forces depends upon direction of current<o:p></o:p></span></p> D. <p class="MsoNormal" style="text-align:justify"><span style="font-size: 12pt; line-height: 107%; font-family: &quot;Times New Roman&quot;; serif;">Both (A) and (C)<b><o:p></o:p></b></span></p> E. All of these
99	Centripetal force for electron is given by	A. $mv^{<sup>2</sup>}/r$ B. $mv / r^{<sup>2</sup>}2$ C. $mv^{<sup>2</sup>}/r$ D. $mr^{<sup>2</sup>}v$
100	The SI unit of magnetic flux is	A. $NmA^{-2}$ B. $NmA^{-1}$ C. $NAm^{-1}$ D. $Nm^{<sup>2</sup>}A^{-1}$
101	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. $90^\circ$ B. $75^\circ$ C. $0^\circ$ D. $180^\circ$
102	The working of all DC electric meters (galvanometers, ammeters and voltmeters) depends upon	A. Heating effect of current B. Chemical effect of current C. Magnetic effect of current D. Electromagnetic effect of current
103	The force experienced by a single charge carrier moving with velocity 'V' in magnetic field of strength 'B' is given by	A. $F = q(v/B)$ B. $F = q^{<sup>2</sup>}(v \times B)$ C. $F = q(v \times B)$ D. $F = vx B$
104	In order to make a voltmeter, high resistance is connected with galvanometer, in	A. perpendicular B. may be parallel or perpendicular C. series D. none of these
105	The voltage increases linearly with	A. time B. velocity C. acceleration D. torque
106	The SI unit of flux density is.	A. Tesla B. Weber C. Gaun D. Weber/meter
107	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
108	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
109	The permeability of free space is measured in:	A. $Wb/Am$ B. $Wb A/m$ C. $Am/Wb$ D. $m/Weber A$ E. None of these
110	When current passes through a solenoid coil, it behaves like a	A. loop B. circle C. bar magnet D. none of these
		A. Maximum B. Minimum

- 111 Magnetic flux passing through an element of area A placed perpendicular to a uniform magnetic field  $B$  is:
- C. Zero  
D. Very small  
E. None of these
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- 112 Electron gun consists of
- A. three anodes  
B. heating cathode  
C. three anodes  
D. three anodes, heating cathode, grid
- 
- 113 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
- 
- 114 The magnetic field in the middle of a solenoid due to current is
- A. weak  
B. strong and uniform  
C. non-uniform  
D. zero
- 
- 115 Fluorescent screen is a screen where visible spot
- A. vanishes  
B. is made  
C. becomes small and large  
D. none of these
- 
- 116 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)