

Physics ECAT Pre Engineering Chapter 15 Electromagnetic Induction Online Test

Sr	Questions	Answers Choice
1	Transformer is used to	A. Increase alternating current B. Increase d.c voltage C. Increase & Decrease emf D. All answers are right
2	The SI unit of magnetic induction is	A. Weber B. Weber/meter C. Henry D. Tesla
3	Which of the following quantities remain constant in step up transformer?	A. Current B. Voltage C. Power D. Heat
4	In magnet-coil experiment, emf can be produced by	A. Keeping the coil stationary and moving the magnet B. Keeping the magnet stationary and moving C. Relative motion of the loop and magnet D. Any one of above E. All above
5	The induced current in a conductor depends upon:	A. Resistance of the loop B. Speed with which the conductor moves C. Any of these D. Both (A) and (B) E. None of these
6	The practical application of the phenomenon of Mutual induction is	A. Transformers B. Generator C. Motor D. All of these
7	The current produced by moving a loop of wire across a magnetic field is called	A. Direct current B. Magnetic current C. Alternating current D. Induced current E. None of these
8	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° B. 70° C. 90° D. 180°

		<p>justury; ><p class="MsoNormal" style="text-align:justify"><o:p></p></p>E. None of these</p>
9	Self induced e.m.f. is also called	<p>A. Motional e.m.f. B. Thermistor C. Electrostatic induction D. Back e.m.f</p>
10	Michael Faraday and Joseph Henry belong respectively to	<p>A. USA and England B. England and France C. England and USA D. USA and France E. None of these</p>
11	In magnet-coil experiment, emf can be produced by:	<p>A. Keeping the coil stationary and moving the magnet B. Keeping the magnet stationary and moving the coil C. Relative motion of the loop and magnet D. Any one of above E. All above</p>
12	Lenz's law is the consequence of	<p>A. Mass B. Energy conservation C. Momentum conservation D. Charge</p>
13	A.C. can be measure with the help of	<p>A. Nuclear effect B. Magnetic effect C. Chemical effect D. Heating effect</p>
14	A device which converts Electrical energy into mechanical energy is called as	<p>A. Transformer B. Generator C. Motor D. All of these</p>
15	The ratio of average e.m.f in the coil tot he time rate of change of current in the same coil is called	<p>A. Mutual induction B. Mutual inductance C. Capacitance D. Self inductance</p>
16	In the equilibrium state, the potential difference between two ends of the conductor moving across a magnetic field is called:	<p>A. Motion emf B. Electrostatic emf C. Induced emf D. Both A and B E. Both A and C</p>
17	Step up transformer has a transformation ratio of 3:2. What is the voltage in secondary, if voltage in primary is 30V:	<p>A. 45 V B. 15 V C. 90 V D. 300 V</p>
18	The phenomenon of generation of induced emf is called:	<p>A. Electrostatic induced B. Magnetic induced C. Electromagnetic induced D. Electric induced E. Both A and C</p>
19	What is the coefficient of mutual inductance, when the magnetic flux changes by 2×10^{-2} Wb, and change in current is 0.01 A?	<p>A. 2 H B. 3 H C. 1/2 H D. Zero</p>
20	The phenomenon of generation of induced emf is called	<p>A. Electrostatic induction B. Magnetic induction C. Electromagnetic induction D. Electric induction E. Both (A) and (D)</p>
21	An induced current can be produced by	<p>A. Constant magnetic field B. Changing magnetic field C. Varying electric field D. Constant electric field E. None of these</p>
22	The Phenomenon of generation of induced emf is called	<p>A. Electrostatic induction B. Magnetic induction C. Electromagnetic induction D. Electric induction E. Both A and B</p>

23	Lens's law deals with the	<p>A. Magnitude of induced current</p> <p>B. Magnitude of induced e.m.f</p> <p>C. Direction of induced e.m.f</p> <p>D. Direction of induced current</p>
24	An induced current can be produced by:	<p>A. Constant magnetic field</p> <p>B. Changing magnetic field</p> <p>C. Varying magnetic field</p> <p>D. Constant electric field</p> <p>E. None of these</p>
25	In the equilibrium state, the potential difference between two ends of the conductor moving across a magnetic field is called:	<p>A. Both A and C</p> <p>B. Induced emf</p> <p>C. Both A and B</p> <p>D. Motion emf</p> <p>E. Electrostatic emf</p>
26	When there is no relative motion between the magnet and coil, the galvanometer indicates:	<p>A. No current in circuit</p> <p>B. An increasing current</p> <p>C. A decreasing current</p> <p>D. Either B or C</p>
27	Referring to above figure, due to change in current in the coil P, the change in magnetic flux	<p>A. Is associated with coil P</p> <p>B. Is associated with coil S</p> <p>C. Causes and induced current in coil S</p> <p>D. All of these</p> <p>E. None of these</p>
28	Instead of moving the coil towards a magnet, the magnet is moved towards the coil with the same speed. The galvanometer shows current:	<p>A. Of same magnitude in the same direction</p> <p>B. Of different magnitude in the same direction</p> <p>C. Of same magnitude but in opposite direction</p> <p>D. Of different magnitude in the opposite direction</p> <p>E. None of these</p>
29	The change of magnetic flux through a circuit will produce	<p>A. Magnetic Field</p> <p>B. Electric Field</p> <p>C. emf</p> <p>D. a.c</p>
30	An induced current can be produced by:	<p>A. Constant magnetic field</p> <p>B. Changing magnetic field</p> <p>C. Varying magnetic field</p> <p>D. Constant electric field</p> <p>E. None of these</p>

31	When a conductor is moved across a magnetic field:	A. Emf induced is similar to that of a battery B. Emf induced gives rise to induced current C. An emf is induced across its ends D. All are correct E. None of these
32	The magnitude of induced emf depends upon the:	A. Rate of decrease of magnetic field B. Rate of change of magnetic field C. Rate of increase of magnetic flux D. Constancy of magnetic field E. None of these
33	The work is stored in the inductor as	A. Electric potential energy B. Elastic potential energy C. Magnetic energy D. Absolute potential energy
34	Referring to above figure, due to change in current in the coil P, the change in magnetic flux:	A. Is associated with coil P B. Is associated with coil S C. Causes an induced current in coil S D. All of these E. None of these
35	When a conductor moved with its length parallel to the lines of magnetic field:	A. An emf is induced across its ends B. Emf induced is similar to that of a battery C. Emf passes through the conductor D. Both A and B E. None of these
36	Faraday's law of electromagnetic induction has been used in the construction of:	A. Galvanometer B. Voltmeter C. Electric motor D. Electric generator E. Commutator
37	The rate of change of area expressed is expressed in:	A. None of these B. ms^{-1} C. m^2s^{-2} D. ms^{-2} E. m^2s^{-1}
38	Referring to above figure, current in the coil P grows from zero to its maximum value	A. At the instant the switch is closed B. At the instant the switch is opened C. When switch is kept open D. All of above E. Neither of above
39	The induced current in the loop can be increased by:	A. Using a stronger magnetic field B. Moving the loop faster C. Replacing the loop by a coil of many turns D. All above E. Both (A) and (B)
40	The motional e.m.f depends upon the	A. Length of a conductor B. Strength of a magnet C. Speed of the conductor D. All of the above
41	The direction of induced current is always so as to oppose the cause which produces it. This is	A. Lenz's law B. Ampere's law C. Faraday's law D. Coulomb's law E. None of these
42	The induced current in a conductor depends upon	A. Resistance of the loop B. Speed with which the conductor moves C. Any of these D. Both A and B E. None of these
43	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
44	Instead of moving the coil towards a magnet, the magnet is moved towards the coil with the same speed. The galvanometer shows current	A. Of same magnitude in the same direction B. Of different magnitude in the same direction C. Of same magnitude but in opposite direction D. Of different magnitude in the opposite direction

		<p>appears induced.</p> <p>E. None of these</p>
45	When a conductor is moved across a magnetic field, the redistribution of charge sets up:	<p>A. Magnetic field</p> <p>B. Electrostatic field</p> <p>C. Electromagnetic field</p> <p>D. All of these</p> <p>E. None of these</p>
46	Eddy current is produced when:	<p>A. A metal is kept in varying magnetic field</p> <p>B. A metal is kept in steady magnetic field</p> <p>C. A circular coil is placed in a steady magnetic field</p> <p>D. A current is passed through a circular coil</p>
47	Which of the following is most suitable as the core of transformer	<p>A. Soft iron</p> <p>B. Alnico</p> <p>C. Steel</p> <p>D. None of these</p>
48	For inducing emf in a coil the basic requirement is that:	<p>A. Flux should link the coil</p> <p>B. Change in flux should link the coil</p> <p>C. Coil should form a closed loop</p> <p>D. Both B and C are true</p>
49	A coil of constant area is placed in a constant magnetic field. An induced current is produced in the coil when	<p>A. The coil is distorted</p> <p>B. The coil is rotated</p> <p>C. The coil is neither distorted nor rotated</p> <p>D. Both A and B</p> <p>E. None of these</p>
50	An induced current can be produced by:	<p>A. Constant magnetic field</p> <p>B. Changing magnetic field</p> <p>C. Varying magnetic field</p> <p>D. Constant electric field</p> <p>E. None of these</p>
51	A coil of constant area is placed in a constant magnetic field. An induced current is produced in the coil when:	<p>A. The coil is distorted</p> <p>B. The coil is rotated</p> <p>C. The coil is neither distorted nor rotated</p> <p>D. Both A and B</p> <p>E. None of these</p>
52	In a coil current change from 2 to 4 A in .05 s. If the average induced emf is 8V then coefficient of self-inductance is:	<p>A. 0.2 henry</p> <p>B. 0.1 henry</p> <p>C. 0.8 henry</p> <p>D. 0.04 henry</p>
53	Referring to above figure, a changing current in coil P can be produced:	<p>A. At the instant the switch is closed</p> <p>B. At the instant the switch is opened</p> <p>C. With the help of rheostat</p> <p>D. All of these</p> <p>E. None of these</p>
54	The induced current in the loop can be increased by:	<p>A. Using a strong magnetic field</p> <p>B. Moving the loop faster</p> <p>C. Replacing the loop by a coil of many turns</p> <p>D. All of above</p> <p>E. None of these</p>
55	In magnet-coil experiment, emf can be produced by:	<p>A. Keeping the coil stationary and moving the magnet</p> <p>B. Keeping the magnet stationary and moving the coil</p> <p>C. Relative motion of the loop and magnet</p> <p>D. Any one of above</p> <p>E. All above</p>
56	The current produced by moving a loop of a wire across a magnetic field is called:	<p>A. Direct current</p> <p>B. Magnetic current</p> <p>C. Alternating current</p> <p>D. Induced current</p> <p>E. None of these</p>
57	Micheal Faraday and joseph Henry belong respectively to:	<p>A. USA and England</p> <p>B. England and France</p> <p>C. England and USA</p> <p>D. USA and France</p> <p>E. None of these</p>
	A coil of constant area is placed in a constant magnetic field. An induce current is	<p>A. The coil is destroyed</p> <p>B. The coil is Rotated</p> <p>C. The coil is neither destroyed nor</p>

58	A coil of constant area is placed in a constant magnetic field. An induced current is produced in the coil when:	<p>C. The coil is neither destroyed nor rotated</p> <p>D. Both (A) and (B)</p> <p>E. None of these</p>
59	An emf is set up in a conductor when it:	<p>A. is kept in a magnetic field</p> <p>B. is kept in a electric field</p> <p>C. Move across a magnetic field</p> <p>D. Both (A) and (B)</p> <p>E. None of these</p>
60	An emf is set up in a conductor when it	<p>A. Is kept in a magnetic field</p> <p>B. Is kept in an electric field</p> <p>C. Moves across a magnetic field</p> <p>D. Both A and B</p> <p>E. None of these</p>
61	The device in which induced emf is statically induced emf is:	<p>A. Transformer</p> <p>B. AC generator</p> <p>C. Alternator</p> <p>D. Dynamo</p>
62	The magnitude of induced emf depends upon the:	<p>A. Rate of decrease of magnetic field</p> <p>B. Rate of change of magnetic field</p> <p>C. Rate of increase of magnetic flux</p> <p>D. Constancy of magnetic field</p> <p>E. None of these</p>
63	When the conductor moved across a magnetic field:	<p>A. Emf induced is similar to that of a battery</p> <p>B. Emf induced gives rise to induced current</p> <p>C. An emf induced across its ends</p> <p>D. All are correct</p> <p>E. None of these</p>
64	The induced emf in a coil is proportional to:	<p>A. Magnetic flux through a coil</p> <p>B. Rate of change of magnetic flux through the coil</p> <p>C. Area of the coil</p> <p>D. Product of magnetic flux and area of the coil</p>
65	The unit of induced emf is:	<p>A. Volt</p> <p>B. Nm/As</p> <p>C. Joule coul⁻¹</p> <p>D. Both A and C</p> <p>E. All of these</p>
66	The current produced by moving a loop of wire across a magnetic field is called:	<p>A. Direct current</p> <p>B. Magnetic current</p> <p>C. Alternating current</p> <p>D. Induced current</p> <p>E. None of these</p>
67	The product of induced current and the resistance of the wire through which the current is passing is called:	<p>A. Electromagnetic induction</p> <p>B. induced emf</p> <p>C. Induced current</p> <p>D. Self induced</p> <p>E. None of these</p>

68	When there is no relative motion between the magnet and coil, the galvanometer indicated	A. NO current in the circuit B. An increasing current C. A decreasing current D. A constant current E. Either B or C
69	Split rings act as	A. Vibrator B. Resistor C. Motor D. Commulator
70	Motional emf is called motional:	A. Electromagnetic force and is measured in newtons B. Electromotive force and is measured in volt C. Electromotive force and is measured in newtons D. Electromagnetic force and is measured in volts E. None of these
71	Referring to above figure, current in coil P falls from its maximum value to zero	A. At the instant the switch is closed B. At the instant the switch is opened C. When switch is kept open D. When switch is kept closed E. None of these
72	Referring to above figure, current in the coil P grows from zero to its maximum value:	A. At the instant the switch is closed B. At the instant the switch is opened C. When switch is kept open D. All of above E. Neither of above
73	The induced current in a conductor depends upon:	A. Resistance of the loop B. Speed with which the conductor moves C. Any of these D. Both A and B E. None of these
74	The induced current in the loop can be Increased by	A. Using a stronger magnetic field B. Moving the loop faster C. Replacing the loop by a coil of many turns D. All above E. Both A and B
75	A metal rod of length 1m is moving at a speed of 1 ms^{-1} in a direction making angle of 30° with 0.5 T magnetic field. The emf produced in the rod is:	A. 0.25 N B. 0.25 V C. 2.5 V D. 2.5 N E. 25 V
76	Referring to above figure, current in coil P falls from its maximum value to zero:	A. At the instant the switch is closed B. At the instant the switch is opened C. When switch is kept open D. When switch is kept closed E. None of these
77	The magnitude of induced emf depends upon the	A. Rate of decrease of magnetic field B. Rate of change of magnetic field C. Rate of increase of magnetic flux D. Constancy of magnetic field E. None of these
78	A square loop of wire is moving through a uniform magnetic field. The normal to the loop is oriented parallel to the magnetic field. The emf induced in the loop is:	A. Zero B. Of smaller magnitude C. Of larger magnitude D. Sometimes B, sometimes C E. Neither of these
79	Back emf is produced due to	A. Self induction B. Mutual induction C. A.C D. Lenz's law
80	The law of electromagnetic induction is related to:	A. Coulomb B. Ampere C. Faraday D. Lenz E. None of these