MDCAT Physics Chapter 9 Electromagnetic Induction Online Test

Sr	Questions	Answers Choice
1	The induced current can be increased by:	A. Increasing the number of turns of coil B. By moving the coil faster through the field C. By increasing the strength D. All of the above
2	In general, in an ac circuit:	A. The average value of current is zero B. The average value of the square of the current is zero C. The average power dissipation is zero D. The phase difference between voltage and current is zero
3	The motional of emf depends upon the:	A. Length of conductor B. Strength of magnetic field C. Speed of conductor D. All the above
4	A magnet is allowed to fall through a metal ring. Its acceleration A), during the fall is:	A. a < g B. a > g C. a = g D. a = 0
5	A step-up transformer operates on 230V line and supplies a load of 2A. The ratio of primary and secondary turns is 1:25. The current in the primary is:	A. 50A B. 25A C. 15A D. 12.5A
6	In a transformer, the number of primary coil and secondary coil are 5 and 4 respectively. If 240 V is applied on the primary coil, then the ratio of current in primary and secondary coil is:	A. 4:5 B. 5:4 C. 5:9 D. 9:5
7	A step-up transformer	A. Increases power-leve B. Increases voltage -level C. Decreases current -level D. Both B and C
8	In the step up transformer, when the alternating voltage increase then the alternating current will	A. Increase B. Decrease C. not change D. Not depend on core
9	Lenz law is in accordance with the law of conservation of:	A. Momentum B. Angular momentum C. Charge D. Energy
10	Which one of the following does not effect the magnitude of the induce emf inelectromagnetic induction?	A. The strength of the magnetic field linkage the cell B. The resistance of the coil cutting the magnetic field C. The speed with which the coil cuts the magnetic field D. The number of turns in the coil
11	The loss of power in transformer occurs due to:	A. The shape of coils B. Size of coils C. Magnetic hysteresis and Eddy current D. None of these
12	Such a value A.C current which produces the same heating effect as is produced by the D.C of equal magnitude is called:	A. r.m.s current B. Peak current C. Effective current D. None of the above
13	The induction e.m.f primarily produced at the cost of:	A. Internal energy B. Chemical energy C. Electrical energy D. Mechanical energy

14	Transformer works on the principle of:	A. Self-induction B. Mutual induction C. Back emf D. None of the above
15	Transformer obeys the law of conservation of:	A. Flux B. Momentum C. Power D. emf
16	When a transformer is used to stepping up A.C voltage from 100 V to 200 V is connected across 50V D.C mains, then:	A. Output voltage is 100 V B. Output voltage is 250 V C. No voltage is developed across the secondary D. None of these
17	Frequency of A.C. used in Pakistan is:	A. 100 CPs B. 60 CPs C. 50 CPs D. 120 CPs
18	A low-loss transformer has 230V applied to the primary and gives 4.6V in the secondary. Secondary is connected to a load which draws 5A of current. The current in the primary is:	A. 0.1A B. 1A C. 10A D. 250A
19	The north pole of a bar magnet is rapidly introduced into a solenoid from its end P. Which of the following statements correctly depicts the phenomenon taking place?	A. No induced emf is set up. B. The end P of the solenoid behaves like a north pole. C. The end P of the solenoid behaves like a north pole. D. None of the above
20	Identify the phenomenon by which an induced emf could be generated:	A. By moving a conductor across a magnetic field B. By rotating a coil faster through the field C. By increasing the strength D. All the above
21	An aero plane with a wing span of 50m flies at 540km/hr. The component of the earth's magnetic field perpendicular to the velocity of the plane is 0.2 x 10-4 Wbm-2 . The potential difference between the tips of the wings is:	A. 1500V B. 150V C. 15V D. 0.15V
22	During each cycle, alternating voltage reaches a peak value:	A. One time B. Two time C. Four-time D. A number of times depending on the frequency
23	In a transformer, the immediate cause of the induced alternating current in the secondary coil is:	A. a varying magnetic field B. a varying electric field C. the iron core of the transformer D. a motion of the primary coil
24	The primary and secondary coils of a transformer are linked	A. Electrically B. Electrically C. Magnetically D. Are not linked at all
25	Lenz's law deals with the:	A. Magnetic field of emf B. Direction of emf C. Both of the magnitude and direction of emf D. Direction of induced current
26	When no power is drawn in the secondary coil of an ideal transformer, the power of the primary coil of an ideal transformer, is:	A. one B. zero C. ½ D. ∞
27	Direction of induced current always:	A. Oppose the cause B. Remains same as that of cause C. equal to cause that produces it D. Directs the cause
28	As per Faraday's laws of electromagnetic induction, an e.m.f is induced in a conductor whenever it:	A. Lies perpendicular to the magnetic field B. Cuts magnetic field C. Lies in a magnetic field D. Moves parallel to the direction of the magnetic field
29	A transformer is used to light a 100 W, 110 V lamp from a 220V supply. If the supply current is 0.5A, the efficiency of the transformer is:	A. 30% B. 50% C. 80% D. 90%

30	If the magnetic flux linked with a coil varies at the rate of 1wb/min, the induced emf is:	A. 1V B. 1/60V C. 60V D. None of these
31	The number of turns in the primary and secondary coils of a transformer are 100 and 300 respectively. If the input power is 60 W then the output power is:	A. 180 W B. 3 kW C. 60 W D. 90 W
32	The SI unit of induced emf is:	A. Vs/ A B. Tesla C. Henry D. Volt
33	A coil having 500 square loops, each of the side 10cm is placed normal to a magnetic field which increased at the rate 1T/sec. The emf induced is:	A. 0.1V B. 0.5V C. 1V D. 5V
34	When the power output in watts equals one half the power input, the efficiency of the transformer becomes:	A. 100% B. 200% C. 50% D. Zero
35	Whenever the magnetic flux linked with a coil changes, there is produced an induced e.m.f. in the circuit. This e.m.f. lasts:	A. for a short time B. for a long time C. so long as the change in flux takes place D. for ever
36	The average value of A.C. current and voltage over a complete cycle is:	A. Maximum B. Zero C. Neither zero nor maximum D. None of the above
37	The magnitude of emf of a conductor of length L and velocity V is equal to:	A. VB/ L B. VL/ B C. VBL D. qVBL
38	The primary winding of a transformer has 500 turns whereas its secondary has 5000 turns The primary is connected to an a.c supply of 20V,50Hz. The secondary will have an output of	A. 2V, 50Hz B. 200V, 500Hz C. 200V, 50Hz D. 2V, 5Hz
39	Why does a transformer have a core made of iron	A. iron has a high melting point B. iron is a conductor of head C. iron is a conductor of electricity D. iron is a magnetic material