MDCAT Physics Chapter 9 Electromagnetic Induction Online Test

Sr	Questions	Answers Choice
1	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
2	The primary and secondary coils of a transformer are linked	A. Electrically B. Electrically C. Magnetically D. Are not linked at all
3	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
4	A step-up transformer	A. Increases power-leve B. Increases voltage -level C. Decreases current -level D. Both B and C
5	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
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	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
8	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
9	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. ∞
10	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%
11	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
12	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
13	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
14	As per Faraday's laws of electromagnetic induction, an e.m.f is induced in a conductor	A. Lies perpendicular to the magnetic field B. Cuts magnetic field

	whenever it:	C. Lies in a magnetic field D. Moves parallel to the direction of the magnetic field
15	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
16	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
17	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
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	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
20	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