

O P JINDAL SCHOOL, SAVITRINAGAR

CLASS TEST & PRACTICE

ANSWER KEY

CLASS X PHYSICS

TOPIC : MAGNETIC EFFECT
OF CURRENT AND
MAGNETISM

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- 1 Direction of rotation of a coil in electric motor is determined by
(a) Fleming's right hand rule
(b) Fleming's left hand rule 1
(c) Faraday law of electromagnetic inductors
(d) None of above

ANS: (b) Fleming's left hand rule.

- 2 In electric motor, to make the coil rotating continuously in the same direction, current is reversed in the coil after every half rotation by a device called 1
(a) carbon brush (b) commutator
(c) slip ring (d) armature

ANS: (b) A device that reverses the direction of current in the arms of armature through a circuit is called commutation.

- 3 The condition for the phenomenon of electromagnetic induction is that there must be a relative motion between 1
(a) the galvanometer and magnet
(b) the coil of wire and galvanometer
(c) the coil of wire and magnet
(d) the magnet and galvanometer

ANS: (c) The relative motion between the magnet and coil of wire causes change in magnetic field lines linked with the coil to produce induced current if the circuit is closed.

- 4 The instrument that is used to detect electric current in the circuit is known as 1
(a) electric motor
(b) A.C generator
(c) galvanometer
(d) none of the above

ANS: (c) A galvanometer is an instrument that can detect the presence of current in a circuit.

- 5 We can induce the current in a coil by 1
(a) moving the coil in a magnetic field
(b) by changing the magnetic field around it
(c) by changing the orientation of the coil in the magnetic field
(d) All of above

ANS: (a) The method can be used to induce the potential difference across the ends of a coil and hence induce current.

- 6 A magnet is moved towards a coil (i) quickly (ii) slowly. The induced potential difference
(a) more in (i) than in (ii) case
(b) more in (ii) than in (i) case
(c) same in both
(d) can't say

ANS: (a) When magnet is moved quickly, more will be the changing magnetic field strength and hence larger is the induced potential difference.

- 7 A.C generator works on the principle of
(a) force experience by a conductor in magnetic field
(b) electromagnetic induction
(c) electrostatic
(d) force experience by a charge particle in electric field.

ANS: (a) Generator works on principle of electromagnetic induction

- 8 Fleming's left hand and Right hand rules are used in
(a) Generator and electric motor
(b) Electric motor and generator
(c) any rule can be used for any device
(d) both are not applied for generator and motor.

ANS: (b) Electric motor employs Fleming left hand rule while for generator, Fleming right-hand rule is used.

- 9 A D.C generator works on the principle of
(a) ohm's law
(b) Joule's law of heating
(c) faraday's law of electromagnetic induction.
(d) none of the above

ANS: (c) electric generator works on the basis of electromagnetic induction.

- 10 If the current values periodically from zero to a maximum value, back to zero and then reverses its direction, the current is
(a) direct
(b) alternative
(c) pulsating
(d) none of the above

ANS: (b) The alternating current reverse its direction periodically.

- 11 Earth wire carries
(a) current (b) voltage
(c) no current (d) heat

ANS: (c) Earth wire carries no current.

- 12 The main advantage of A.C power transmission over D.C power transmission over long distance is
(a) AC transmit without much loss of energy
(b) less insulation problem

- (c) less problem of instability
- (d) easy transformation.

ANS: (a) AC transmit over a long distance without much loss of energy as compare to DC.

13 Which among of these are the main characteristics of fuse element?

- (a) High conductivity
- (b) low melting point
- (c) do not burn due to oxidation
- (d) All of the above

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ANS: (d) Fuse wire must have all the characteristic to prevent from a possible damage.

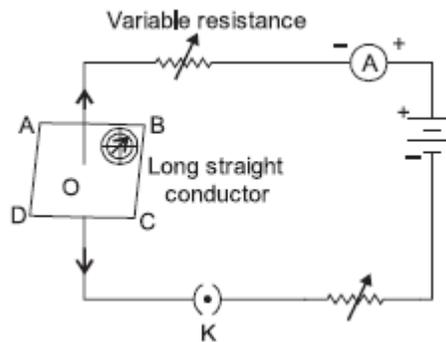
14 Overloading is due to

- (a) Insulation of wire is damaged
- (b) fault in the appliances
- (c) accidental hike in supply voltage
- (d) All of the above

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ANS: (d) All are the causes to occur overloading

15 If the key in the given arrangement is taken out (the circuit is made open) and magnetic field lines are drawn



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over the horizontal plane ABCD, the lines are

- (a) concentric circles
- (b) elliptical in shape
- (c) straight lines parallel to each other
- (d) concentric circles near the point O but of elliptical shapes as we go away from it

ANS: (a) Magnetic field lines around a straight current carrying conductor are in the form of concentric circle.