



10TH SSC MCQ - CH - Effects of electric current

DATE: _____

TIME: 31 Min

MARKS: 31

SEAT NO: _____

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Note:-

1. All Questions are compulsory.
2. Numbers on the right indicate full marks.

Q.1 If 220 V potential difference is applied across an electric bulb, a current of 0.45 A flow in the bulb. What must be the power of the bulb? **(1)**

- A) 99 W B) 70 W
C) 45 W D) 22 W

Ans : A

Q.2 Which of the statement given below correctly describes the magnetic field near a long, straight current carrying conductor _____ **(1)**

- A) The magnetic lines of force are in a plane, perpendicular to the conductor in the form of straight lines. B) The magnetic lines of force are parallel to the conductor on all the sides of conductor.
C) The magnetic lines of force are perpendicular to the conductor going radially out word. D) The magnetic lines of force are in concentric circles with the wire as the center, in a plane perpendicular to the conductor.

Ans : D

Q.3 Which device is used to produce electricity _____ **(1)**

- A) Electric motor B) Galvanometer
C) Electric Generator (DC) D) Voltmeter

Ans : C

Q.4 Electromagnetic induction means _____ **(1)**

- A) Charging of an electric conductor. B) Production of magnetic field due to a current flowing through a coil.
C) Generation of a current in a coil due to relative motion between the coil and the magnet. D) Motion of the coil around the axle in an electric motor.

Ans : C

Q.5 At the time of short circuit, the current in the circuit _____ **(1)**

- A) reduces substantially. B) does not change.
C) increases heavily. D) vary continuously.

Ans : C

Q.6 The essential difference between an AC generator and a DC generator is that _____ **(1)**

- A) AC generator has an electromagnet while a DC generator has permanent magnet. B) DC generator will generate a higher voltage.
C) AC generator will generate a higher voltage. D) AC generator has slip rings while the DC generator has a commutator.

Ans : D

- Q.7 The phenomenon of electromagnetic induction is _____. (1)
- A) the process of charging a body. B) the process of generating magnetic field due to a current passing through a coil.
- C) producing induced current in a coil due to relative motion between a magnet and the coil. D) the process of rotating a coil of an electric motor.

Ans : C

- Q.8 From which of the following case, current in the loop will not be induced? (1)
- A) The loop is moved in the direction of the magnet. B) The magnet is moved in the direction of the loop.
- C) The loop and magnet are moved in the opposite direction with the same speed. D) The loop and magnet are moved in one direction with the same speed.

Ans : D

- Q.9 The magnetic field of a _____ is like a magnetic field of a bar magnet. (1)
- A) Current carrying wire B) Current carrying ring
- C) Current carrying solenoid D) Current carrying rectangular loop

Ans : C

- Q.10 A positively charged particle (alpha particle) projected towards west is deflected towards north by a magnetic field. The direction of magnetic field is _____. (1)
- A) towards south B) towards east
- C) downward D) upward

Ans : D

- Q.11 As we move away from a current carrying conductor, the spacing between the magnetic lines of force _____. (1)
- A) decreases B) increases
- C) remains at equal distances D) none of these

Ans : B

- Q.12 Frequency of AC in India is _____. (1)
- A) 50 Hz B) 60 Hz
- C) 110 Hz D) 220 Hz

Ans : A

- Q.13 Which of the following correctly describes the magnetic field near a long straight wire _____. (1)
- A) The field consists of straight lines perpendicular to the wire. B) The field consists of straight lines parallel to the wire.
- C) The field consists of radial lines originating from the wire. D) The field consists of concentric circles centred on the wire.

Ans : D

- Q.14 An electric fuse is based on _____. (1)
- A) the heating effect of the current B) the chemical effect of the current
- C) the magnetic effect of the current D) none of these

Ans : A

- Q.15 A galvanometer is used to _____. (1)
A) measure potential difference B) detect direction of current
C) measure amount of current flowing D) measure electric power of the circuit
Ans : B
- Q.16 The wire which melts and breaks the circuit when large current is allowed to flow through it is called _____. (1)
A) A fuse wire B) Electric wire
C) Connecting wire D) Filament
Ans : A
- Q.17 When electric current passes through a wire , it behaves like a magnet. This is known as _____. (1)
A) Magnetic effect of current B) Electrical effect of current
C) Heating effect of current D) Optical effect of current
Ans : A
- Q.18 _____ discovered that when a compass needle deflects when kept nearer to an electric circuit in which current is flowing. (1)
A) Hans Christian Oersted B) Michael Faraday
C) Galileo D) Newton
Ans : A
- Q.19 The fuse wire should have a _____. (1)
A) low melting point B) high melting point
C) very high melting point D) none of these
Ans : A
- Q.20 Fuse wire is a _____. (1)
A) tin-lead alloy B) copper-lead alloy
C) tin-copper alloy D) silver-lead alloy
Ans : A
- Q.21 A person gets a severe electric shock on touching _____. (1)
A) a neutral wire B) a live wire
C) an earth wire D) none of these
Ans : B
- Q.22 The colour of the earth wire is generally _____. (1)
A) red B) blue
C) black D) green
Ans : D
- Q.23 One megawatt is equivalent to _____. (1)
A) 10^2 W B) 10^6 W
C) 10^4 W D) 10^8 W
Ans : B

- Q.24 Electrical work done per unit time is _____. (1)
A) electrical energy B) electrical current
C) electrical power D) electrical circuit
Ans : A
- Q.25 The direction of induced current in an AC generator changes once in each _____. (1)
A) two revolutions B) one revolution
C) half revolution D) one fourth revolution
Ans : C
- Q.26 The device used for converting electrical energy to mechanical energy is _____. (1)
A) galvanometer B) generator
C) motor D) voltmeter
Ans : C
- Q.27 _____ reverses the direction of current in the armature coil of electric motor. (1)
A) Battery B) Brushes
C) Magnet D) Commutator
Ans : D
- Q.28 _____ are used in domestic appliances like mixers, washing machines and refrigerators. (1)
A) AC motors B) AC generators
C) DC motors D) DC generators
Ans : C
- Q.29 The magnetic field produced due to a current through a circular loop depends directly on _____. (1)
A) radius of the loop B) current passing through it
C) resistance of the wire D) thickness of the wire
Ans : B
- Q.30 The relation between electricity and magnetism was first established by _____. (1)
A) Andre Marie Ampere B) Michael Faraday
C) Oersted D) Fleming
Ans : C
- Q.31 The direction of the magnetic field around a straight conductor carrying current is given by _____. (1)
A) Right hand thumb rule B) Fleming's left hand rule
C) Fleming's right hand rule D) None of these
Ans : B