

Chapter: 4

Q.1 A) Choose the correct alternative and rewrite the sentence (1)

- 1) The direction of the magnetic field around a straight conductor carrying current is given by
a. Right hand thumb rule
b. Fleming's left hand rule
c. Fleming's right hand rule
d. None of these

B) Answer the following questions. (2)

i) **Find co-related terms**

Frequency of AC current in India : 50 Hz :: Frequency of DC current in India :

ii) **State true or false.**

Electrochemicals are devices that convert electrical energy into mechanical energy.

Q.2 A) Give scientific reason. (Any one) (2)

- 1) In the electric equipment producing heat e.g. iron, electric heater, boiler, toaster etc. an alloy such as Nichrome is used, not pure metals.
2) The current produced in an AC generator is of alternating nature.

B) Answer the following questions. (Any two) (4)

i) **Distinguish between**

Direct Current and Alternating Current

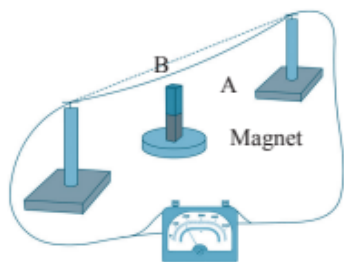
ii) **Write Short Notes on**

Short Circuit

- 3) An electric tungsten bulb is connected into a home circuit. The home electric supply runs at 220 V potential difference. When switched on, a current of 0.45A flows through the bulb. What must be power of the bulb? If it is kept on for 10 hours, how many units of electricity will be consumed?

Q.3 Answer the following questions. (Any two) (6)

- 1) Observe the following figure and answer the questions.



- What is a galvanometer?
- Will the galvanometer pointer deflect when the magnet moves while the wire is kept in a fixed position? Why?
- What will happen when the magnet, in the above case, moves in the opposite direction? Why?

- 2) How does a short circuit occur / form? What is its effect ?

- 3) What is a solenoid? Compare the magnetic field produced by a solenoid with the magnetic field of a bar magnet. Draw neat figure and name various components of a solenoid. Write one application of a solenoid.

Or

What is a solenoid? Compare the magnetic field produced by a solenoid with the magnetic field of a bar magnet. Draw neat figures and name various components.

Q.4 Answer the following questions. (Any one)

(5)

- Complete the mathematical form of Joule's law.
- Explain the working of the given diagram.

