Chapter 11

CIRCUITS AND ELECTRIC CURRENT

REVIEW EXERCISES

Q.1 Complete each of the following sentences by writing the correct term:

i) The circuit that provides only one path for the current is called ***Series Circuit***.

ii) One of the unit in our electricity meter is known as ***ammeter***.

iii) The unit of potential difference is ***Volt***.

iv) The unit of electric current is ***ampere***.

v) The unit of resistance is ***ohm***.

Q.2 Give short answers:

i) What is an electric current?

Ans: Electric Current:

The movement of free electrons is called Electric Current. OR the rate of flow of charge at certain point is called current.

ii) What causes the current to flow in an electrical circuit?

Ans: Electrons of outermost shells of a conductor are capable of electricity flow. The electrons that have been knocked out of the outermost shell of an atom are known as free electrons. The movement of these free electrons constitutes an electric current which is the flow of electric charges.

iii) What is the main difference between a series circuit and a parallel circuit?

Ans: The main difference between a series circuit and parallel circuit are following.

Series Circuits	Parallel Circuit
1) If all the components are connected one after another in a single loop, then it is a series circuit.	1) If the components are connected in two or more loops, then it is a parallel circuit.
2) Current flows through a single path in a series circuits.	2) Parallel circuit have more than one path for the current to flow.
3) In this type of circuit, the amount of current which flows through each component is the same.	3) As there is more than one path for the current to flow, a break in any branch of the circuit cuts the current flow through that branch only.

iv) Is the lighting system in your classroom a parallel or series circuit? Give reason of your answer.

Ans: The light system in our classroom parallel circuit because parallel circuit have more than one path for the current to flow. As there is more than one path for the current to flow, a break in any branch to the circuit the current flow through that branch only so we use the light system in our classroom a parallel system.

Q.3 Explain hazards of electricity.

Ans:(1) Electric shocks and electrocution:

Mostly unawareness is the main cause of electrical hazards. Following hazards cause injury or death.

- When a person touches the open plug or live wires, current flows through his body causing an electric shock to the person.
- The person is injured or may be killed.

- It can be prevented by using good quality electrical wires, that avoids its hazards.

(2) Short Circuit:

- The large current flowing through the wires may cause the wire to overheat and a fire may start. Sometimes electrical sparks from a short circuit may also ignite flammable materials near by and start a fire.
- To avoid his hazard do not connect too many electrical appliances to the same output socket.
- Do not forget to switch off an appliance as may also cause over heating of wires, which may cause a fire.

Q.4 Suggest some ways to safe use of electricity.

Ans: Safety Measures:

The following safety rules, we can use electricity without getting hurt.

1. Do not insert any metal object into electric sockets.
2. Do not touch a fallen electric wire, especially from power current lines.
3. Never touch electrical appliances with wet hands.
4. Make sure to not overload power sockets.
5. Never grab on to anyone who is shocked. Use a non-metallic object such as rubber or dry wood to shift the victim away from the electric wire.

Q.5 Why is Electrcity Dangerous?

Ans: Electric shock is highly dangerous and painful. What can happen as a result?

- Muscles tighten up, making it almost impossible to pull away from the circuit.
- Lungs contract, making it hard to breathe.
- Heartbeat is interrupted and blood vessels lighten.

- Burns occur where the electricity enters and leaves the body.

Q.6 ***Write the name of some devices using for measure the current.***

Ans: Following devices are used to measure current, voltage and resistance of an electric circuit:

• Current	Ammeter
• Voltage	Voltmeter
• Resistane	Ohm meter