CLASS-X

ELECTRICITY ELECTRIC CIRCUIT

ELECTRICAL CIRCUITS:

A continuous path consisting of conducting wires and other resistances (like lamps, bulbs etc.) between the terminal of a battery, along which an electric current flow, is called a circuit.



(a) Open Electric Circuit:

An electric circuit through which no electric current flows is known as open electric circuit. The electric circuit will be open circuit if the plug of the key is taken out or if the connecting wire break from any point.

(b) Closed Circuit:

An electric circuit through which electric current flows continuously is known as closed circuit.

ELECTRIC CIRCUITS AND MEASURING INSTRUMENTS:

A closed path in which a current can flow is called an electric circuit. An electric circuit may have one or more electric elements such as bulbs (or lamps), cells, switches (or plug keys), metal wires, etc. Each element of a circuit has a specific function to play. For example, wires can be used to connect one element to the next. And a plug key or a switch can be used to either complete or break the closed path, thereby starting or stopping the current in the circuit.

Some common circuit elements and their symbols are shown in Figure.



Fig. Some symbols used in circuit diagrams

CLASS-X

CIRCUIT DIAGRAM:

We know that an electric circuit, comprises a cell (or a battery), a plug key, electrical component(s), and connecting wires. It is often convenient to draw a schematic diagram, in which different components of the circuit are represented by the symbols conveniently used. Conventional symbols used to represent some of the most commonly used electrical components are given in Table

SI. No.	Components	Symbols
1	An electric cell	• <u>-</u>
2	A battery or a combination of cells	── <u>+</u> ⊢─ ⊨─
3	Plug key or switch (open)	—()—
4	Plug key or switch (closed)	—(•)—
5	A wire joint	
6	Wires crossing without joining	<u> </u>
7	Electric bulb	or 🗐
8	A resistor of resistance R	
9	Variable resistance or rheostat	or
10	Ammeter	+(A)
11	Voltmeter	