CLASS NOTES

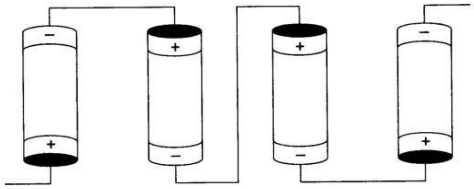
Class: VII	**Topic: Exercise**
Subject: Science	**Chapter 14 :** Electric Current and its Effects

Instructions: Write this exercise in your Science copy.

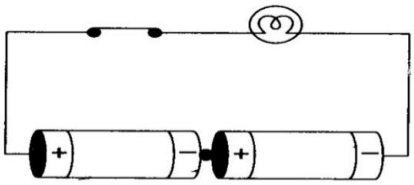
Ans 1. Draw and write Table 14.1 symbols for some electrical circuit components from pg. no. 161(NCERT VII Sc. Book).

Ans 2. Draw fig 14.9 from pg. no. 163.

Ans 3.



Ans 4. The problem in this circuit is the improper connection of two cells. In the circuit positive terminal of one cell should be connected with negative terminal of other to make the bulb glow as given in the figure.



Ans 5. Two effects of electric current are:
(i) Heating effect.
(ii) Magnetic effect.

Ans 6. When current is passed through the wire, it deflects the compass needle near it from its north-south position like a magnet. This is called magnetic effect of the current.
As we know that needle of the compass is made up of a thin magnet. When this needle comes in contact with another magnet then the like poles of the magnet repel each other and opposite poles attract each other. So the deflection is seen in the needle.
In this case the wire behaves like a temporary magnet and causes deflection in needle of the compass.

Ans 7. No, because there is no source of electric current (cell) in this circuit. In the absence of electric current, the wires will not produce magnetic field around it. Hence no deflection will be observed in the compass needle.

Ans 8. Fill in the blanks:
(a) Longer line in the symbol for a cell represents its positive terminal.
(b) The combination of two or more cells is called a battery.
(c) When current is switched 'on' in a room heater, it becomes red hot and emits heat.
(d) The safety device based on the heating effect of electric current is called a fuse.

Ans 9. Mark 'T' if the statement is true and 'F' it is a false :
(a) To make a battery of two cells, the negative terminal of one cell is connected to the negative terminal of the other cell. - False
(b) When the electric current through the fuse exceeds a certain limit, the fuse wire melts and breaks. - True
(c) An electromagnet does not attract a piece of iron. - False
(d) An electric bell has an electromagnet. - True

Ans 10. An electromagnet is just like a magnet and it can attract magnetic materials only. Plastics does not have any magnetic property, so electromagnet cannot be used to separate plastic bags from garbage heap.

Ans 11. The device fuse is a safeguard to all of our electrical appliances. They are made up of special material which melt quickly and break when a large electric currents passed through it. If the electrician does not use proper fuse wire, instead he uses any ordinary electric wire as fuse, it increases the risk of overheating of wires due to flow of excessive current. It may lead to short circuit in electric equipment and these appliances may catch fire. It is advised to use standard fuse wire or MCBs to prevent electrical accidents.

Ans 12. Possible defects in the circuit as follows:

- The bulb may be fused or defected.
- Cells may not be connected properly.
- There may be loose connections.
- The switch may not be properly connected.
- The cell might be dried up.

Ans 13. (a)No bulb will not glow.
(b) When the switch is moved to the 'ON' position the circuit is complete and electric current will flow immediately. All bulbs A, B and C will glow simultaneously.