



Electricity and Circuits DPP-01

Multiple choice questions

- Electric charge has
 - Only magnitude, does not have any direction
 - Only direction
 - Both magnitude and direction
 - None of these
- Two cases of the interaction of two electric charges with each other are shown below. Choose the correct statement.



Case I



Case II

- Charges in case I attract each other.
 - Charges in case II attract each other.
 - Charges in case I first attract and then repel each other.
 - Charges in case II repel each other.
- When a neutral object becomes positively charged, which of the following occurs ?
 - It loses electrons
 - It gains electrons
 - It loses protons
 - It gains neutrons

Fill in the blanks

- Lightning is an example of electric _____.
- Neutron & protons reside in_____.
- When the amount of positive charge on a proton is _____to the amount of negative charge on an atom then atom is said to be electrically neutral.
- The build up of electrical charges on an object is called _____.

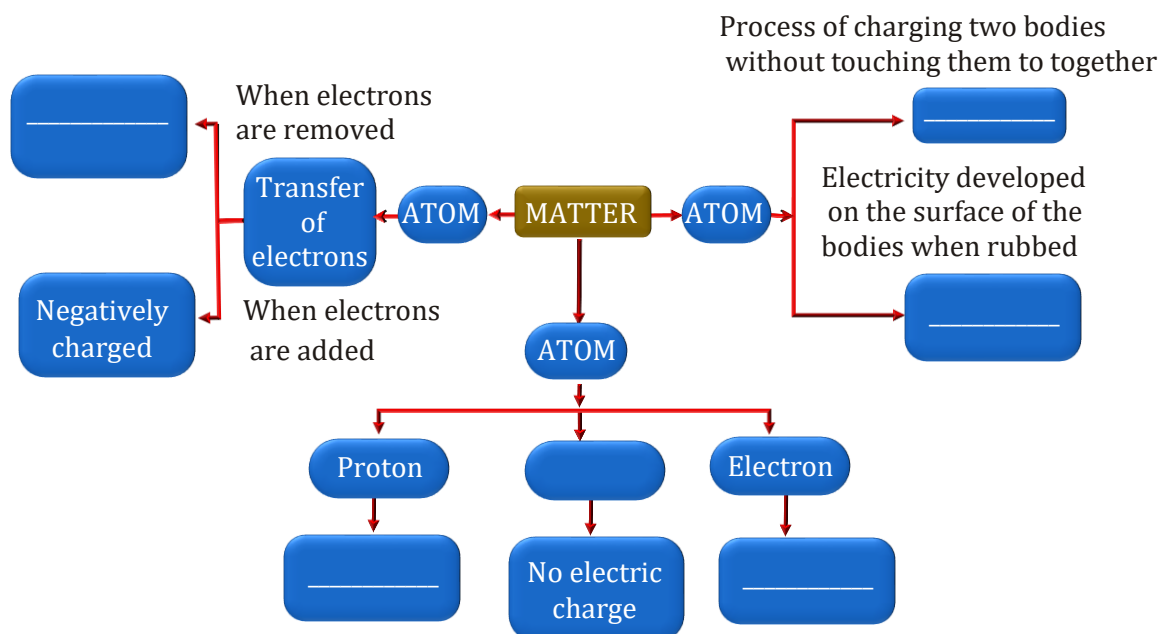
True or False

- Electric charge is a property of matter.
- Electrons, protons and neutrons are electric charges
- When two bodies are rubbed then both the bodies get charged with similar type of charges.
- A body is naturally neutral.

12. Match the column

Column-I		Column-II	
(A)	Protons	(p)	Negatively charged
(B)	Electrons	(q)	Positively charged
(C)	Like charges	(r)	Attract
(D)	Unlike charges	(s)	Repel

13. Concept map



Subjective questions

14. Why clothes cling in dryer? Explain.
15. What is static electricity? How static electricity can be produced.

SOLUTIONS DPP-01

Answer Key

1. Option (1)

Electric charge has only magnitude, does not have any direction.

2. Option (2)

Charges in case II attract each other, as they have opposite charge.

3. Option (1)

When a neutral object becomes positively charged, it loses electrons.

4. Lightning is an example of electric **discharge**.5. Neutron & protons reside in **nucleus**.6. When the amount of positive charge on a proton is **equal** to the amount of negative charge on an atom then atom is said to be electrically neutral.7. The build-up of electrical charges on an object is called **static electricity**.8. **True**

Electric charge is a property of matter.

9. **False**

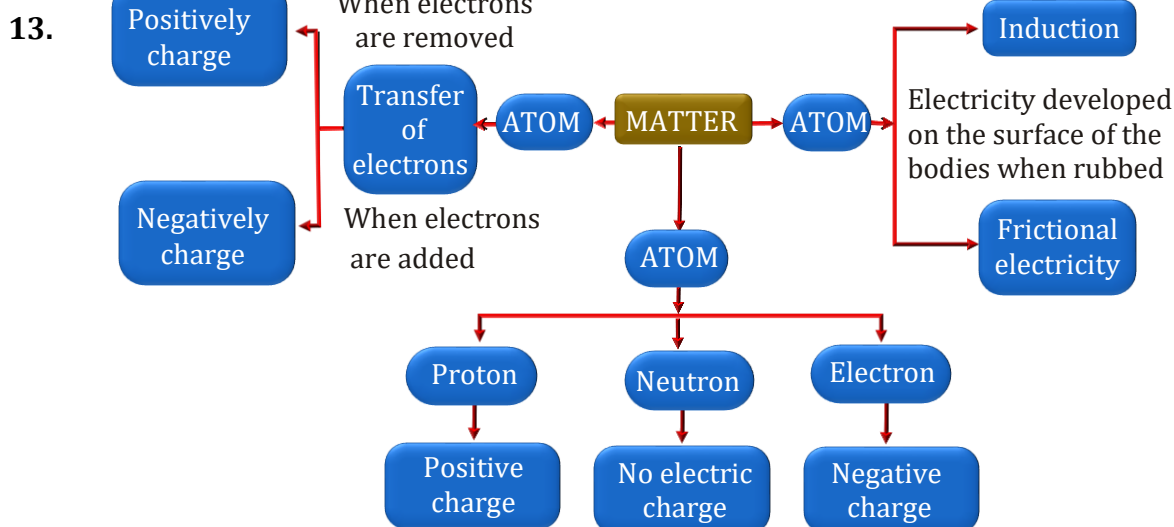
Electrons, protons and neutrons are particles they acquired charge. Charge is a property of matter.

10. **False**

When two bodies are rubbed, they acquired different type of charged in same amount.

11. **True**

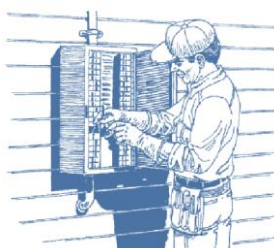
A body is made of atoms and molecules. An atom contains equal number of proton and electrons. The positive and negative charges cancel out and the atom has no net electric charge. Objects with no net charge are said to be electrically neutral.

12. $(A \rightarrow q); (B \rightarrow p); (C \rightarrow s); (D \rightarrow r)$ 

- 14.** In a cloth dryer when clothes are rubbed against each other some clothes gain electrons while some clothes lose electrons. Thus, they get oppositely charged. Since opposite (or unlike) charges attract each other, the clothes cling to one another. This tendency for clothes to stick (cling) to other clothes because of development of opposite charges on them is called static cling.
- 15.** When two bodies rubbed against each other then charges build up on the surfaces of the bodies. This build-up of electrical charges on an object is called static electricity.
- The most common way to develop static electricity on the bodies is by rubbing them against each other.

**Electricity and Circuits DPP-02****Multiple choice questions**

1. Which of these is the best insulator?
(1) Copper (2) Rubber (3) The ground (4) Water
2. The electrician in this picture is wearing rubber gloves for protection. The purpose of the rubber gloves is to



- (1) keep the electrician dry (2) create an electrical circuit
(3) produce electricity (4) insulate the electrician
3. Cell is a device which
(1) converts chemical energy into electrical energy
(2) electrical energy into light energy
(3) electrical energy into magnetic energy
(4) None of these

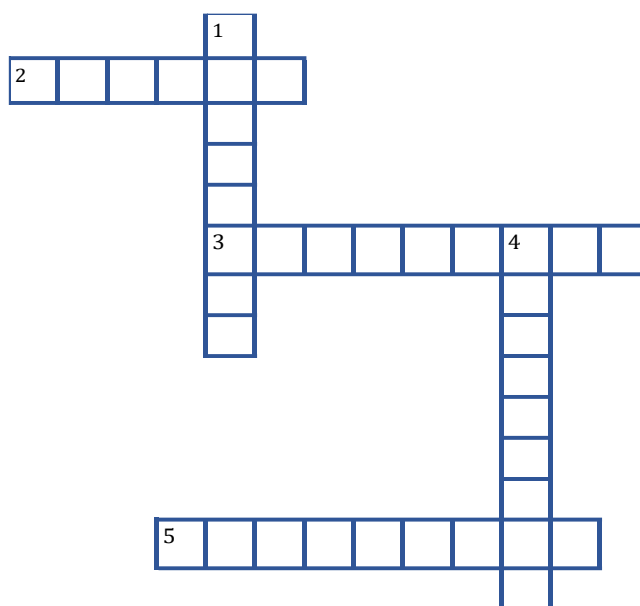
Fill in the blanks

4. The metal cap is _____ terminal of electric cell and metal disc is _____ terminal.
5. Electricians must wear _____ gloves while repairing electric switch.
6. A _____ is used in remote, torch etc.
7. Our body is _____ of electricity.

True or False

8. Graphite is not a conductor.
9. Battery is the combination of only two cells in parallel combination.
10. Insulators do not conduct electricity because they do not have free electrons.
11. Electric current can pass through a sheet of thermocol.

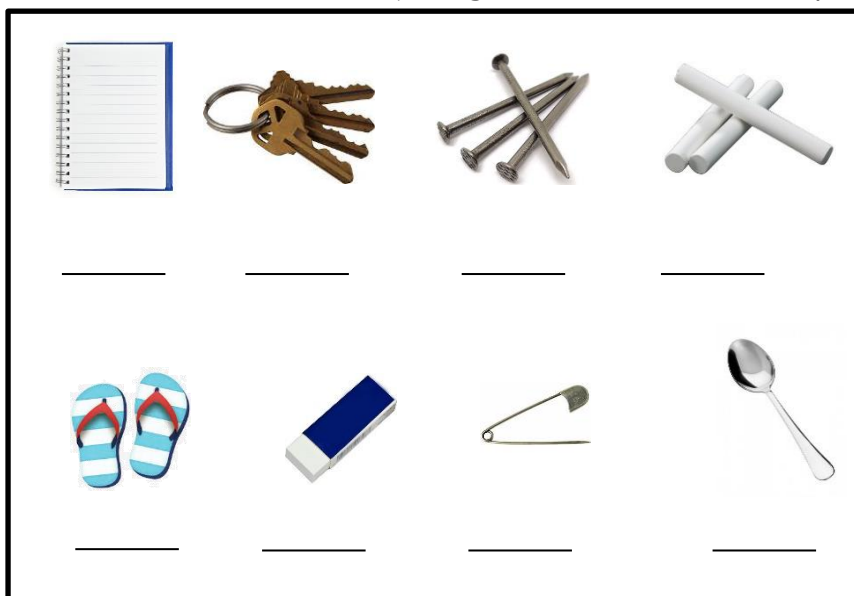
12. Crossword

**ACROSS**

2. Best conductor of electricity.
3. Transfer of charge without touching.
5. material that allow the flow of charge easily.

DOWN

1. charge on electron.
4. Material that resist the flow of charge.
13. Find out the nature of the objects given below as conductor/insulator

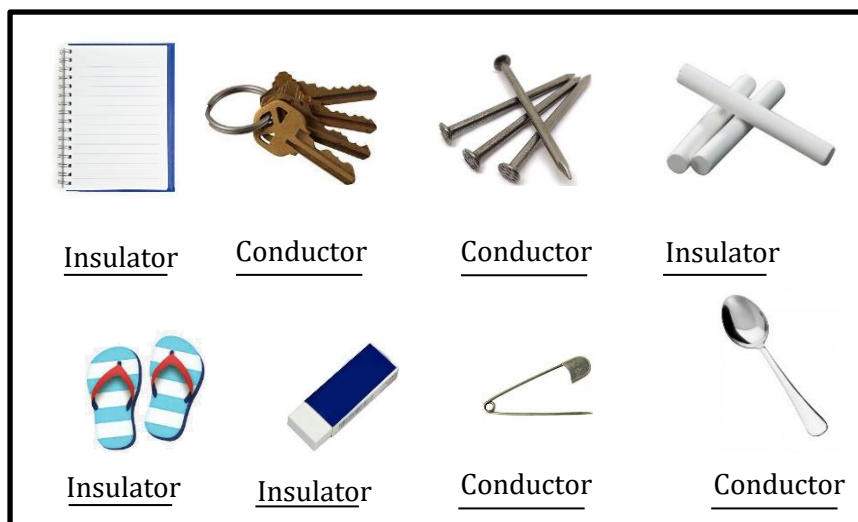
**Subjective questions**

14. What is a conductor? Explain. Also give two examples of conductors.
15. What is a Insulator? Explain. Also give two examples Insulator.

Answer Key

- [illegible]

13.



14. Conductors are materials that allow charges to flow through them easily. In other words 'materials which allow electric current to pass through them are conductors of electricity'.
Examples : Silver , copper
15. Insulators are materials that do not allow charges to flow through them easily. In other words 'materials which do not allow electric current to pass through them are insulators of electricity'.
Examples : Rubber, plastic

**Electricity and Circuits DPP-03****Multiple choice questions**

1. Which term refers to the push that moves electrons through a circuit?
(1) Charge (2) Current (3) Resistance (4) Voltage
2. If voltage in a circuit is increase than value of current is.
(1) Increase (2) Decrease (3) Remains same (4) none of these
3. The opposing capacity of materials against the current flow is
(1) Inductance (2) Conductance (3) Resistance (4) Distance

Fill in the blanks

4. Unit of electric current is _____.
5. _____ allows electrical energy to be changed into other forms of energy.

True or False

6. Electric current is the flow of electrons.
7. Unit of resistance is volt.

Subjective questions

8. Define electric current and resistance.
9. Define voltage and its unit also.
10. What is conventional current? why it is different from direction of flow of electron in a circuit.

SOLUTIONS DPP-03

Answer Key

1. Option (4)

Voltage can be thought of as the force that pushes electrons through a conductor.

2. Option (1)

Current in a circuit is propositional to the voltage.

3. Option (3)

The opposing capacity of flow of current of any material is called resistance.

4. Unit of electric current is **ampere**.5. **Resistance** allows electrical energy to be changed into other forms of energy.6. **True**

Electric current is the flow of electrons.

7. **False**

Unit of resistance is ohm.

8. Electric current : A flow of electrons through a conductor is called an electric current. Electric current is measured in a unit called ampere.

Resistance : It is the property of a substance to oppose or slow down electric current. Resistance is measured in a unit called ohm.

9. Voltage is the strength of a power source. A power source with more voltage can produced more electric current. Voltage is measured in a unit called volt.

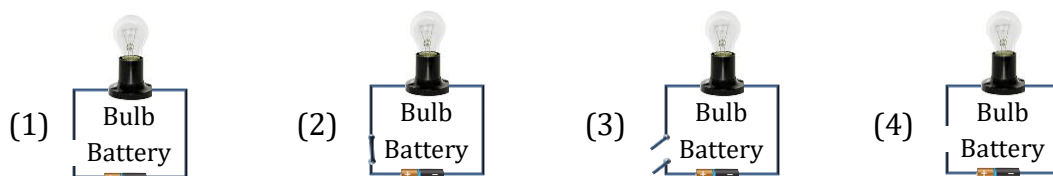
10. Electric current is always said to flow from the positive terminal to the negative terminal in a circuit. This is called conventional current. In a circuit, the movement of negatively charged electrons is from negative terminal to the positive terminal. Thus, we can say, direction of movement of electrons is opposite to the direction of electric current.



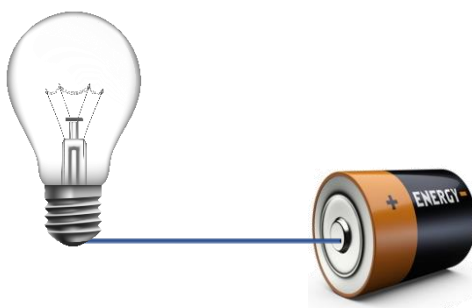
Electricity and Circuits DPP-04

Multiple choice questions

1. Which diagram below shows a closed circuit ?

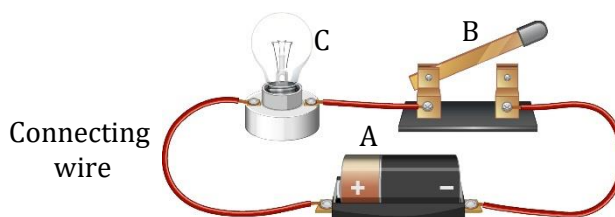


2. A student made the circuit shown in the figure below.



What does the student need to add to the circuit to make it work ?

- (1) another bulb (2) another wire (3) another battery (4) a plastic material
3. When switch do not complete the circuit this position of switch is called.
- (1) ON position (2) OFF position (3) both (1) and (2) (4) none of these
4. Tick the correct option.



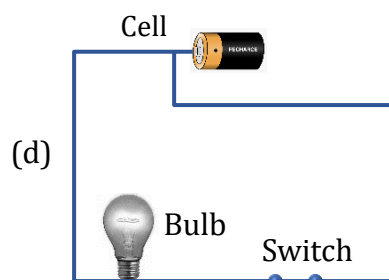
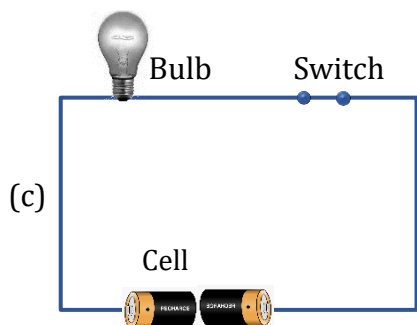
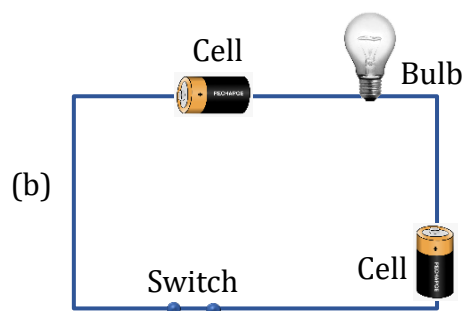
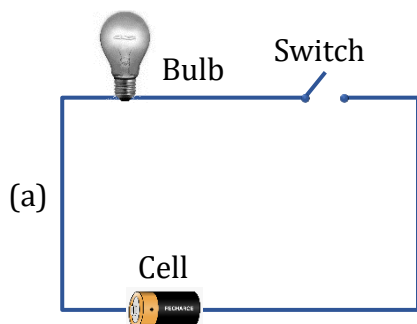
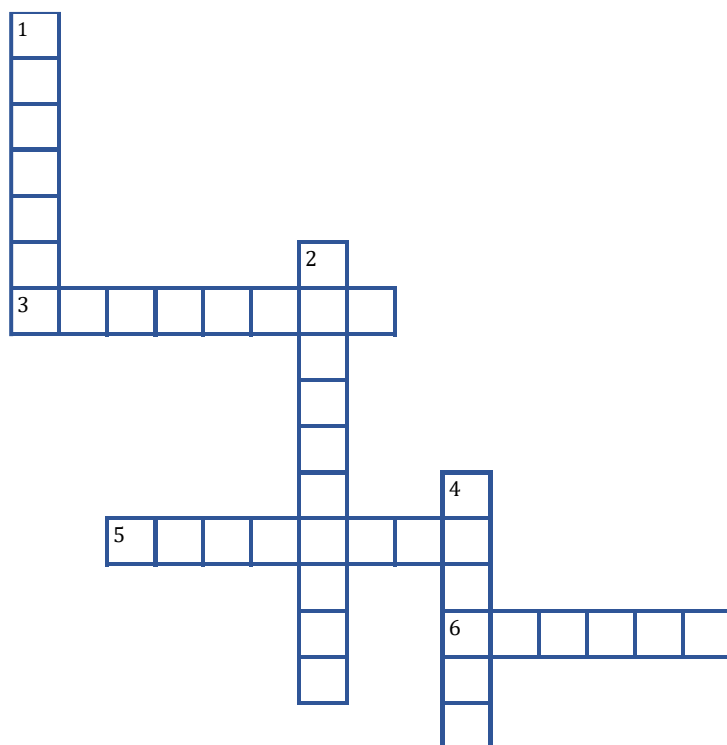
- (a). In the above figure, PART A is called _____.
 (1) cell (2) connecting wire (3) bulb (4) switch
- (b). In the figure, PART B is called _____.
 (1) cell (2) connecting wire (3) bulb (4) switch
- (c). In the figure, PART C is called _____.
 (1) cell (2) connecting wire (3) bulb (4) switch

Fill in the blanks

5. Electric _____ is a path along which current flows.
6. In an electric circuit the direction of current is taken to be from _____ to _____ terminal of electric cell.

True or False

7. Current flows only through a complete path.
8. A switch is a device that can open or close the path of electric current.
9. Examine given electric circuit and write whether the bulb(s) will glow or will not glow. Explain the reason.

**10. Cross word**

ACROSS

3. Filament of a bulb is made up of _____.
5. A Cell is a device which converts _____ energy into electrical energy.
6. A device that can open or close the path of electric current.

DOWN

1. The path along which electric current flow is called _____.
2. A battery is a source of _____ energy.
4. A _____ circuit in which the path is complete and there is a flow of current in the circuit.

SOLUTIONS DPP-04

Answer Key

1. Option (2)

Option (2) is a proper closed circuit.

2. Option (2)

For complete the circuit he should connected another wire with second terminal of bulb with battery.

3. Option (2)

When switch is 'ON' circuit is close and when switch is 'OFF' circuit is break.

4. (a → 1); (b → 4); (c → 3)

5. Electric **circuit** is a path along which current flows.6. In an electric circuit the direction of current is taken to be from **positive** to **negative** terminal of electric cell.

7. True

Current always flow in a closed circuit.

8. True

A switch is a device that can open or close the path of electric current.

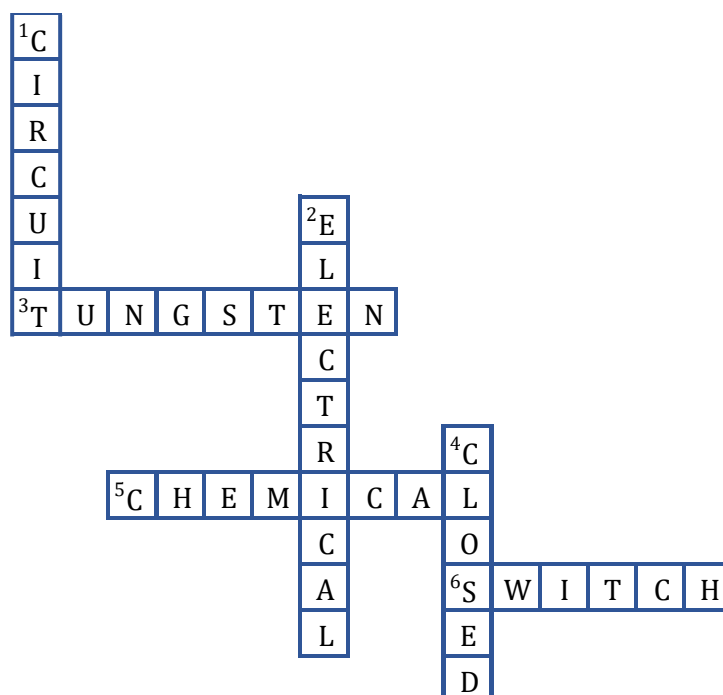
9. (a) Bulb will not glow because circuit is not close.

(b) Bulb will glow.

(c) Bulb will not glow because combination of battery is wrong.

(d) Bulb will not glow because circuit is not correct.

10. Cross word





Electricity and Circuits DPP-05

Multiple choice questions

1. Batteries are arranged in a torch in
(1) series connection (2) parallel connection
(3) Both (1) and (2) (4) None of these
2. Filament of a bulb is
(1) conductor (2) insulator (3) Both (1) and (2) (4) None of these
3. Which one of the following is not the part of torch (flash light)?
(1) Spring (2) Reflector (3) Electric cell (4) Magnet

Fill in the blanks

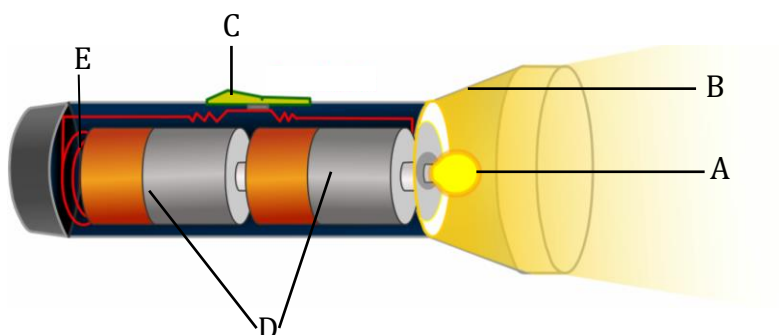
4. Filament of a bulb is made up of _____.
5. A battery is a source of _____.
6. Bulb converts _____ energy into _____ energy.

True and False

7. Filament of a bulb has a high melting point and high resistance.
8. The metal cap is negative terminal of a dry cell.

Subjective questions

9. Explain structure of electric bulb with the help of diagram.
10. Observe the following figure and label the point A, B, C, D and E.



SOLUTIONS DPP-05

Answer Key

1. Option (1)

Batteries are arranged in a torch in series connection.

2. Option (1)

The filament of a bulb is made from a conductor.

3. Option (4)

Magnet is not used in torch.

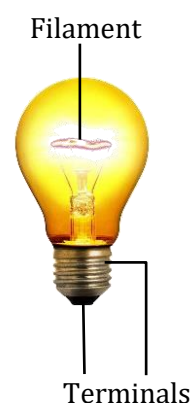
4. Filament of a bulb is made up of **tungsten**.5. A battery is a source of **electrical energy**.6. Bulb converts **electrical** energy into **light** energy.7. **True**

Filament of a bulb has high melting point and high resistance.

8. **False**

The metal cap is positive terminal of a dry cell.

9. A torch bulb or any other electric bulb has an outer case of glass that is fixed on a metallic base. Inside the bulb, there is a thin wire that gives off light which is called the filament of the bulb. The filament is fixed to two thicker wires, which also provide support to it. One of these thick wires is connected to the metal case at the base of the bulb. The other thick wire is connected to the metal tip at the centre of the base. The base of the bulb and the metal tip of the base are the two terminals of the bulb. These two terminals are fixed in such a way that they do not touch each other.



10.

