



Answer any two questions from 1 to 3(Each question carries 1 score)

1. Filament: high Melting Point: Fuse:
2. Bar magnet: Permanent magnet; Solenoid:
3. Which rule helps us to find the direction of motion of a current carrying conductor placed in a magnetic field?

(Joule's law, Maxwell's right hand thumb rule, Fleming's left hand rule, Flemings right hand rule)

Answer any two question from 4 to 6. Each carries 2 score.

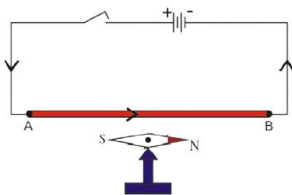
4. LED lamps are used to save electrical energy. Write any two advantages of LED lamps?
5. five resistors each of $2\ \Omega$ are connected in parallel. Calculate the effective resistance.
6. The important part of safety fuse is fuse wire
 - a. Which alloy is used to make the fuse wire?
 - b. Write any one peculiarity of fuse wire?

Answer any two questions from 7 to 9. Each carries 3 score.

7. A magnetic field is developed around a current carrying conductor.
 - a. Name the rule for finding the direction of magnetic field produced by a straight current carrying conductor
 - b. What is the nature of magnetic field lines around a straight current carrying conductor?
8. You are familiar with the heating appliances.
 - a) Write the energy conversion in heating appliances.
 - b) Name the main part of a heating appliance?
 - c) Which material is used to make this part?
9. $0.2\ \text{A}$ current flows through a resistor of resistance $100\ \Omega$ for 2 minutes
 - a) Calculate the heat generated?
 - b) What will be the heat if current is doubled without changing the resistance and time?

Answer any two questions from 10 to 12. Each carries 4 score.

10. . A straight conductor **AB** is arranged parallel to a magnetic needle as shown in figure.



- a) When the switch is ON what happens to the magnetic needle?

Give reason.

- b) Name the law used to find the direction in which the magnetic needle deflects

11. Excess electric current in a circuit is the cause of many problems.

- a. Write two situations when excess flow of current takes place.
- b. What are the precautions to be taken when fuse wire is included in a household wiring?

12. Certain processes related to discharge lamp are given below.

Arrange them in the order in which they occur.

- a. Excited atoms come back to their original state for attaining stability.
- b. A high potential difference is applied to the gas molecules.
- c. Radiated as light
- d. Gas molecules get excited