

# SSLC PRE MODEL EXAMINATION - 2023

Time:- 45 minutes

Physics

Total Score :-

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