

**DPP – 1**

**Electric Household Circuits**

1. Define household unit of electricity.
2. What is the voltage of electricity that is generally supplied to a house?
3. What is the function of fuse? What requirement is kept in mind while choosing material of fuse?
4. Out of the three fuses available, with current rating 5A, 10A and 13 A, which one should be used in a circuit containing geyser rated 3 kW –250 V? Give one reason.
5. Rewrite the following sentence, using correct alternative. A fuse is connected in parallel / series to earth /neutral /live wire.
6. Which of the two cables, one 5 A and other 15 A, will be thicker? Give one reason for your answer.
7. Where is a fuse wire placed in an electric circuit?
8. Name the material suitable for making fuse wire.
9. What do you understand by the term earthing?
10. Which part of an electric appliance is earthed?
11. How does earthing protect user from receiving electric shock?
12. How is a household circuit earthed?
13. Explain how the fuse melts when a short-circuited appliance gets earthed.
14. What is the function of a switch in an electric appliance?
15. Why is switch placed in the live wire?
16. Why is household wiring done in parallel? Give at least two reasons.
17. What are the disadvantages of wiring a household circuit in series?

**DPP – 2**

**Electric Household Circuits**

1. Draw the circuit diagram for the distribution of power from poles to main switch and label each part clearly. State the function of each part.
2. Name two systems of distribution of power in a house. Give the advantages and disadvantages of these systems.
3. Draw a circuit diagram, showing two electric bulbs, a three pin socket and a fan connected in a household circuit. Clearly show the position of fuses; switches and earth.
4. Draw a circuit diagram for the distribution of current in ring system. Show a heater connected in this system. State two advantages of ring system over tree system.
5. State the colour of: (i) live wire, (ii) neutral wire (iii) earth wire according to international connections.
6. State the positions of : (i) earth pin, (ii) neutral wire, (iii) neutral in an electric plug.
7. What is a three core flexible wire? Why short circuit takes place, if more current is made to flow in this wire?
8. How the difficulty of short circuit is overcome?
9. Why is the earth terminal in a plug made: (i) thicker? (ii) longer as compared to live or neutral terminals?
10. What do you understand by the term earthing with reference to electrical appliances?
11. Describe briefly, why earthing is essential.
12. The flexible leads, used for connecting electrical appliances to mains are made up of three separate wires coloured, red; black and green. Which wire is meant for earthing?
13. Name the colours of three core cable, along with their corresponding electrical connection to socket. Which wire is connected to earth pin?
14. Name four devices which make use of only heating effect of current.
15. Name two devices which in addition to heat, produce light energy.

**DPP – 3****Electric Household Circuits**

1. Two bulbs of 100 W and 25 W are connected in series to 200 V - A.C. mains. It is found that the 25 W bulb glows brightly. Explain the observation.
2. Write whether the following statements are true or false.
  - (a) A wire with blue sleeve connects to live pin of a plug.
  - (b) A wire with brown sleeve connects to neutral pin of a plug.
  - (c) A wire with yellow sleeve connects to earth pin of a plug.
3. Fill in the blanks to complete the sentences.
  - (a) A fuse is a \_\_\_\_\_ piece of wire of low \_\_\_\_\_ and high \_\_\_\_\_ .
  - (b) The colour of insulation sleeve of earth wire is \_\_\_\_\_ , neutral wire is \_\_\_\_\_ and live wire is \_\_\_\_\_ .
  - (c) Kilowatt-hour is the unit of electrical \_\_\_\_\_ , whereas kilowatt is the unit of electric \_\_\_\_\_ .
  - (d) Energy spent in 1 kilo-volt ampere hour = 5 \_\_\_\_\_ 1000AmpVoltshour
  - (e) An electric fuse wire has a low \_\_\_\_\_, and is made of an alloy of \_\_\_\_\_ and \_\_\_\_\_. If the current in circuit is too high, the \_\_\_\_\_ melts, thus stopping \_\_\_\_\_ and safeguarding the wire and electric appliances from getting \_\_\_\_\_.
4. Explain the following:
  - (a) Wires used as leads of an electric oven are thicker than those used in the leads of a table lamp.
  - (b) The wires leading current to an electric bulb are thicker, while its filament is made of thin wire.
  - (c) The heating element of a room-heater becomes red hot, while lead wires remain cold.
5. Name the material used for making fuse wire. State two properties of material of fuse wire which make it suitable for use.
6. What is meant by earthing of an electrical appliance? How does earth offer protection?
7. Why is the fuse wire fitted in a porcelain casing?
8. For earthing an electrical appliance, one has to remove paint from the metal body of the appliance, where electrical contact is made. Explain the reason.
9. Explain the meaning of the statement, the 'current rating of a fuse is 5A'.