

## Household Circuits Board Questions

Q1. (i) What characteristics should a fuse wire have?

(iii) Which wire in a power circuit is connected to the metallic body of the appliance?

A1. (i) High resistivity and low melting point.

(ii) The ground wire.

Q2. Identify the following wires used in a household circuit:

(i) The wire is also called as the phase wire.

(ii) The wire is connected to the top terminal of a three-pin socket.

Q3. Why is the fuse absolutely necessary in a power circuit?

Q4. (i) Heat supplied to a solid change it into liquid. What is this change in phase called ?

(ii) During the phase change does the average kinetic energy of the molecules of the substance increase?

(iii) What is the energy absorbed during the phase change called?

Q5. (i) State two differences between "Heat Capacity" and "Specific Heat Capacity".

(ii) Give a mathematical relation between Heat Capacity and Specific Heat Capacity.

Q6. i) Name the colour code of the wire which is connected to the metallic body of an appliance.

Q7. (i) To which wire of a cable in a power circuit should the metal case of a geyser be connected ?

(ii) To which wire should the fuse be connected ?

Q8. (i) Explain the meaning of the statement 'current rating of a fuse is 5A'.

(ii) In the transmission of power the voltage of power generated at the generating stations is stepped up from 11 kV to 132 kV before it is transmitted. Why ?

Q9. Name the wire in a household electrical circuit to which the switch is connected.

Q10. (i) An electrical gadget can give an electric shock to its user under certain circumstances. Mention any two of these circumstances.

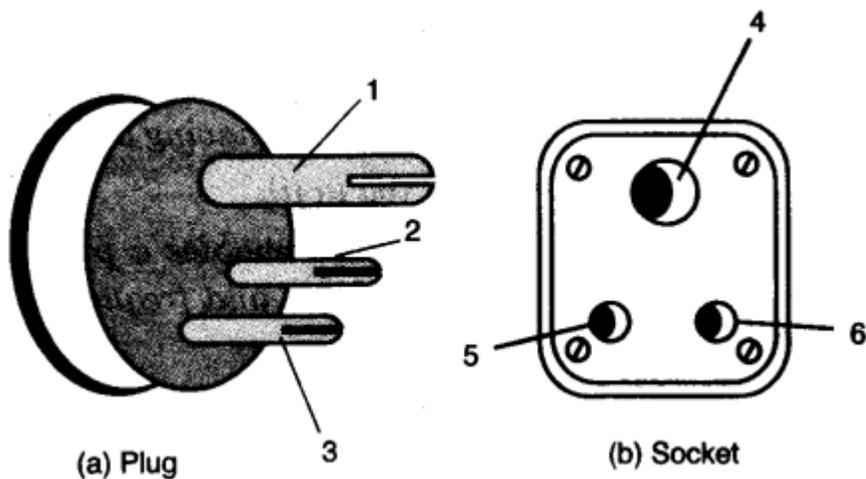
(ii) What preventive measure provided in a gadget can protect a person from an electric shock ?

Q11. (i) In what unit does the domestic electric meter measure the electrical energy consumed ? State the value of this unit in S.I.

(ii) Why should switches always be connected to the live wire ?

(iii) Give one precaution that should be taken while handling switches.

Q12. (i) The diagram (a) and (b) given below are of a plug and a socket with arrow marked as 1, 2, 3 and 4, 5, 6 respectively on them. Identify and write Live (L), Neutral (N) and Earth (E) against the correct number.



A12. (i) 1 and 4 are Earth (E).  
 3 and 6 are Live (L).  
 2 and 5 are Neutral (N).

Q13.

Name the material used for:

- (i) Electric fuse.
- (ii) Connecting wire.
- (iii) Filament of an electric bulb.
- (iv) Heating element of an electric toaster.

Q14.

A body of mass " $m_1$ " of a substance of specific heat capacity  $c_1$ , at a temperature  $t_1$  is mixed with another body of mass " $m_2$ " of specific heat capacity " $c_2$ " at a lower temperature  $t_2$ . Deduce an expression for the temperature of the mixture  $t_3$ .