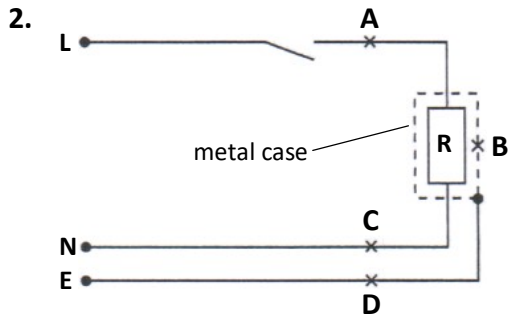


Practical Electricity – Practice 3 (ANS for Q1-12) [18 v 1.0]

MCQ

1. An electric washing machine is protected by an earth wire.
To which part of the washing machine should the earth wire be connected?

- A the fuse
B the live wire
C the metal case
D the switch (C)



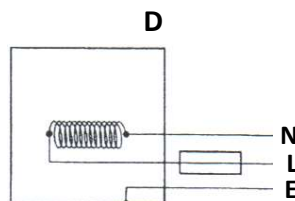
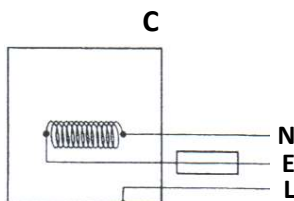
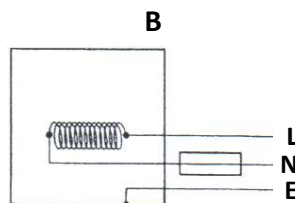
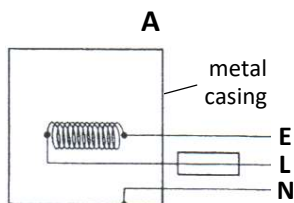
The diagram shows an electrical appliance R with a metal case, indicated by the dotted line, connected to a mains supply.

Where should the fuse be placed?

(A)

Concept: The appliance will still be *live* if the fuse is placed in the neutral wire.

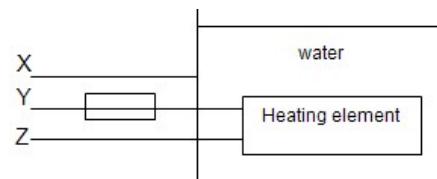
3. The diagrams show the possible wiring to a heating element.
Which one shows the correct arrangement of wires?



(D)

4. The diagram shows the electrical wiring to a hot water metal tank.

What are the current values in the three wires when the water tank works normally?



	X	Y	Z
A	0 A	2 A	2 A
B	2 A	2 A	2 A
C	0 A	2 A	0 A
D	2 A	2 A	0 A

(A)

5. Many electrical appliances have metal cases.

To prevent the case from becoming 'live', with the possibility of an electric shock, the earth wire of the electric cable is attached to the case.

How does the earth wire prevent an electric shock?

- A It allows a current to flow to earth, so that the appliance continues working.
- B It allows a large current to flow to earth, blowing the fuse.
- C It prevents the fuse from blowing.
- D It reduces the current to a safe level. (B)

6. An electric kettle has a metal casing. The cable for the kettle contains a wire that is connected to the earth pin of the plug.

Which danger does this guard against?

- A the cable to the kettle becoming too hot
- B the casing of the kettle becoming live
- C the casing of the kettle becoming wet on the outside
- D the casing of the kettle overheating (B)

7. The current in a filament lamp is 0.25 A when working normally. The lamp is connected to a plug and the mains a.c. supply. When the lamp is switched on, it does not light.

What is a possible cause for this?

- A The earth wire in the plug is not connected.
- B The fuse in the plug is 3 A.
- C The lamp only works on a d.c. power supply.
- D The live wire in the plug is not connected. (D)

8. The extract shown is part of a Safety Officer's report on how electrical items were being used in a house.

'The hair-dryer had a plastic case with double insulation, so only the live and neutral leads were connected to the plug. When not in use, the dryer was kept in a metal cabinet but it was taken into the bathroom to be used.'

Which underlined comment indicates an electrical hazard?

- A plastic case with double insulation
- B only the live and neutral leads were connected to the plug
- C kept in a metal cabinet
- D taken into the bathroom to be used (D)

9. What causes the fuse to blow in a mains electrical circuit?

- A a person touches the live wire
- B a person touches the neutral wire
- C the live wire touches the earth wire
- D the neutral wire touches the earth wire (C)

[Be Discussed as a Class]

10. The fuse in a particular circuit 'blows' regularly. This could be because there is a direct connection between
- I the live and neutral wire.
 - II the live and earth wire.
 - III the earth wire and the body of the appliance.

- A I and II are true
- B I and III are true
- C I, II and III are true
- D III is true only

(A)

11. An electrical cable contains three wires: live, neutral and earth. The cable is correctly wired to a plug which contains a 3A fuse. The insulation becomes damaged and bare metal wires show.

Five possible events can occur.

- A person touches the earth wire
- A person touches the neutral wire
- A person touches the live wire
- The live wire touches the neutral wire
- The live wire touches the earth wire

How many of these five events cause the fuse in the plug to blow?

- A 1
- B 2

C 3

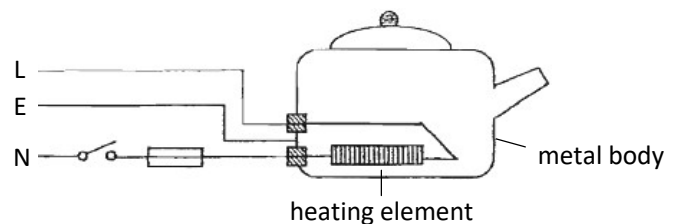
D 4

(B)

[Be Discussed as a Class]

12. The diagram shows the circuit of an electric kettle that has been wrongly wired.

The kettle will still operate but



- A the fuse will not blow when there is a high current flowing through the circuit.
- B when the live wire accidentally touches the body of the kettle, current cannot be conducted to earth.
- C the heating element will remain at the high potential of 240 V even if the switch is open.
- D the earth wire will conduct current away and prevent electrocution when the switch is closed.

(C)

[Be Discussed as a Class]