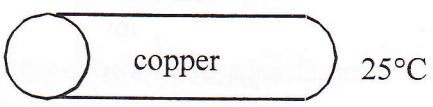
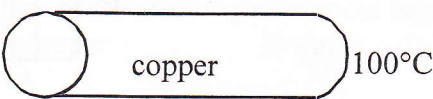
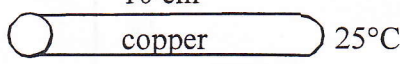
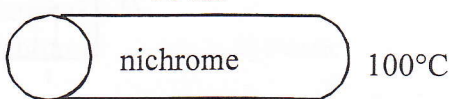


Resistance and Conductance


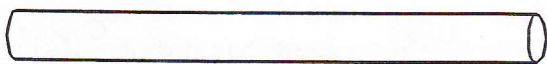


1. Which of the following diagrams shows the wire with the best electrical conductivity?

- A)  10 cm
copper 25°C
- B)  10 cm
copper 100°C
- C)  10 cm
copper 25°C
- D)  10 cm
nichrome 100°C

2. A student wants to measure the current intensity and the potential difference of an electrical appliance. Which of the following statements about the resistance of a conducting wire are true?

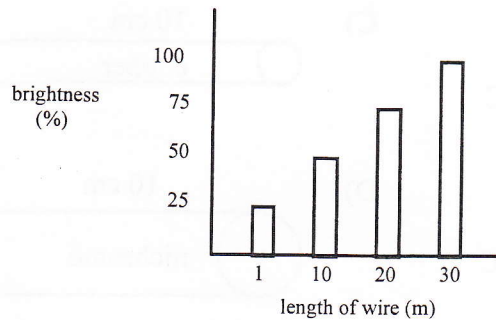
1. The resistance of a conducting wire is directly proportional to its length.
 2. The resistance of a conducting wire is directly proportional to its cross section.
 3. The resistance of a conducting wire depends on the nature of the wire.
 4. The resistance of a conducting wire does not depend on the temperature of the wire.
- A) 3 and 4 B) 2 and 4 C) 1 and 3 D) 1 and 2

3. The four conductors shown below are made out of copper. Which one has the greatest conductance?

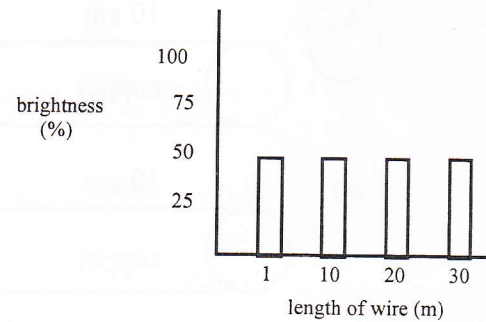
- A) 
- B) 
- C) 
- D) 

4. During an experiment a student had to determine if the length of a copper wire influences the conductance. To do this he used the luminous intensity of an electric bulb in a circuit. Which of the following graphs best represents the results he obtained?

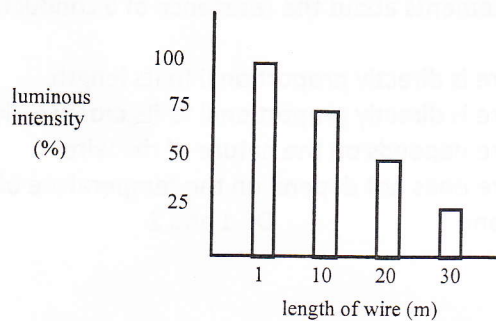
A)



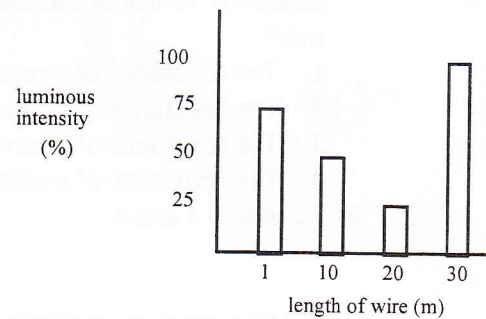
C)



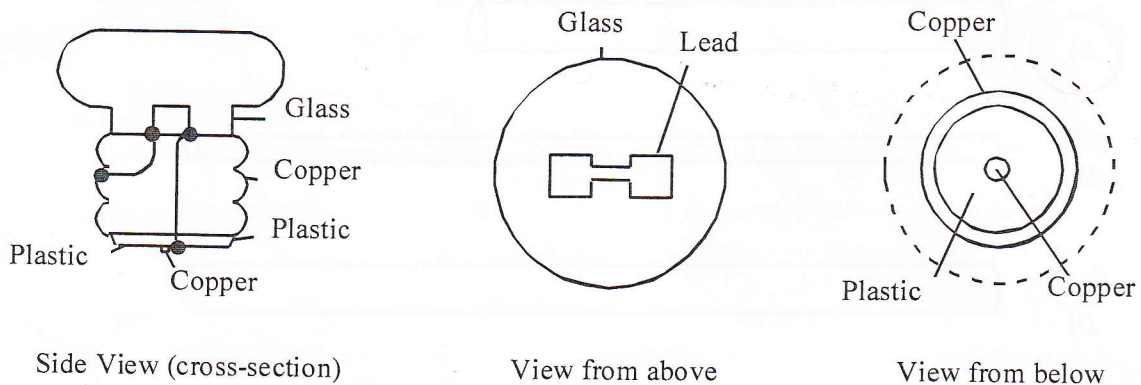
B)



D)



5. The diagram below shows an electric fuse.



What is the function of the glass and the plastic?

They are insulators to prevent electric shock

6. Note the following substances :

1. Rubber
2. Plastic
3. Aluminum
4. Copper
5. Steel

Which of these substances are insulators?

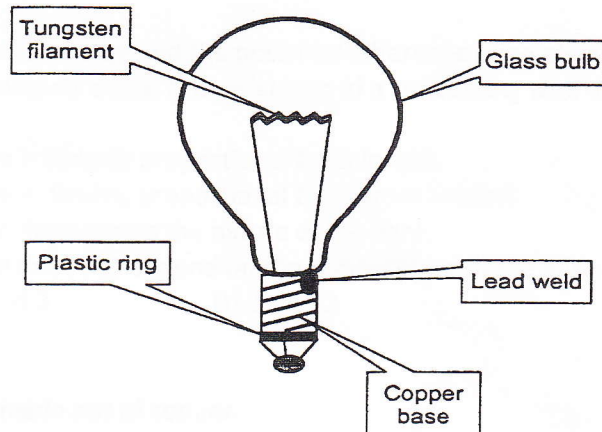
- ☒ A) 1 and 2 B) 1 and 3 C) 2, 4 and 5 D) 3, 4 and 5

7. Which of the following substances best conducts electricity?

- ☒ A) Copper B) water C) Nichrome D) Plastic

8.

The diagram on the right shows the main parts of an incandescent light bulb.



Which of the substances used to make this light bulb are insulators?

- A) Copper and lead ☒ C) Plastic and glass
B) Plastic and lead D) Glass and tungsten

9. Electric appliances are made with a wide variety of materials. Some of these materials are electrical conductors and others are electrical insulators. Which of the following lists consists of electrical conductors only?

- A) Aluminum, copper, glass, nickel C) Ceramic, glass, nickel, vinyl
☒ B) Aluminum, copper, nickel, silver D) Ceramic, glass, rubber, vinyl

10. Each of the following statements contains two options. Underline the option that allows the optimal flow of electric current through a circuit.

- a) a short wire or a very long wire
b) a steel wire or a copper wire
c) a large-diameter wire or a small-diameter wire
d) a cold temperature or a hot temperature