

Section B
[10 marks]
Answer all questions.

21. A fire extinguisher can be used to put off a fire by removing one of the conditions needed for combustion to happen.

a. Match the burning materials with the appropriate types of fire extinguishers.

Burning material

(i) Oil •

(ii) Magnesium •

Type of fire extinguisher

• Dry sand

• Carbon dioxide

• Water

[2 marks]

b. Complete the bubble map in Diagram 21 with the principles used to extinguish the fire.

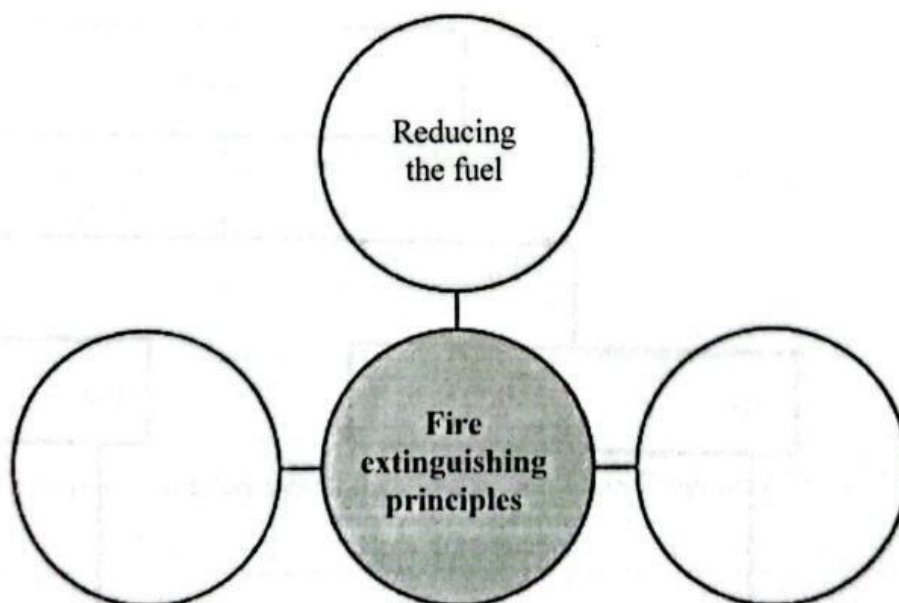


Diagram 21

[2 marks]

22. The smallest particle of an element is a small and discrete particle known as atom.

a. Circle the subatomic particles found in the nucleus of an atom.

Proton	Electron	Neutron
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[2 marks]

b. Match the subatomic particles to their respective charge.

Proton	Electron	Neutron
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No charge	Positively charged	Negatively charged
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[2 marks]

c. Complete the classification of elements in Diagram 22 below.

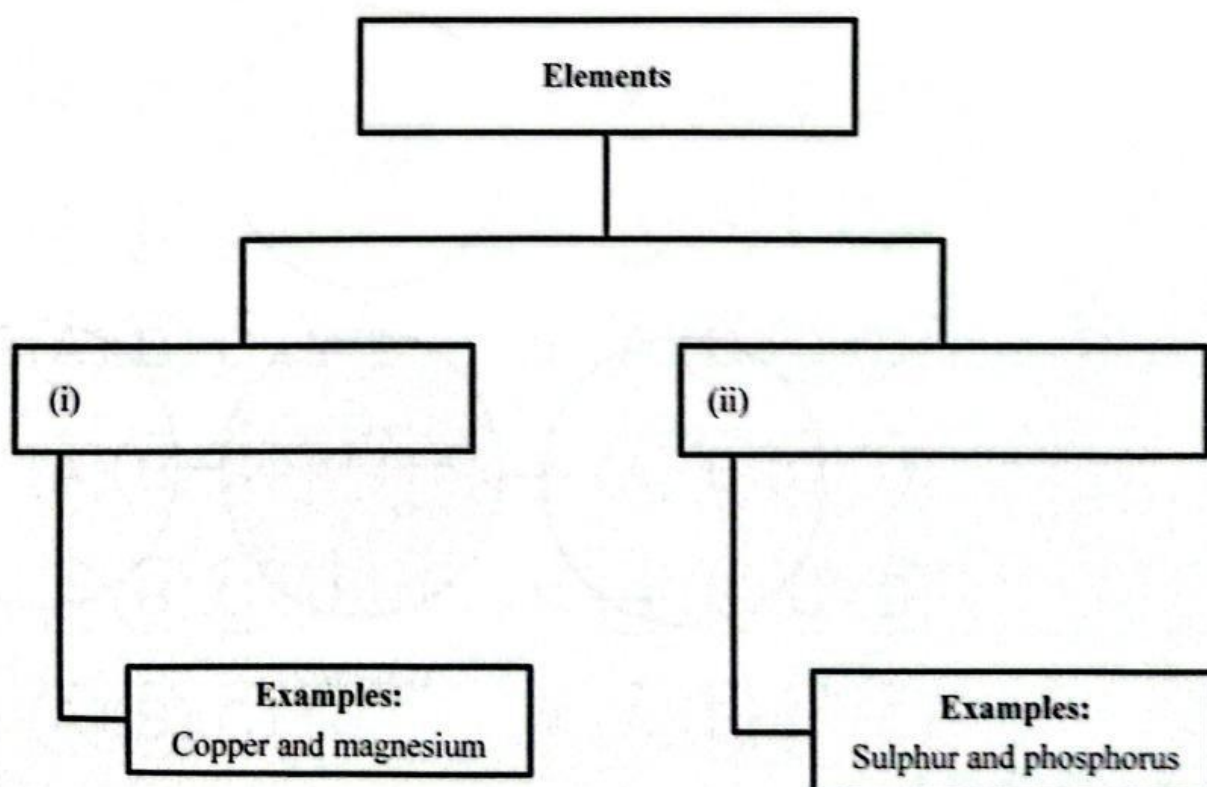


Diagram 22

[2 marks]

Section C
[20 marks]
Answer **all** questions.

23. Mixtures and compounds are from the combination of two or more elements.

- a. Diagram 23.1 shows two substances which are mixed well in a bowl.

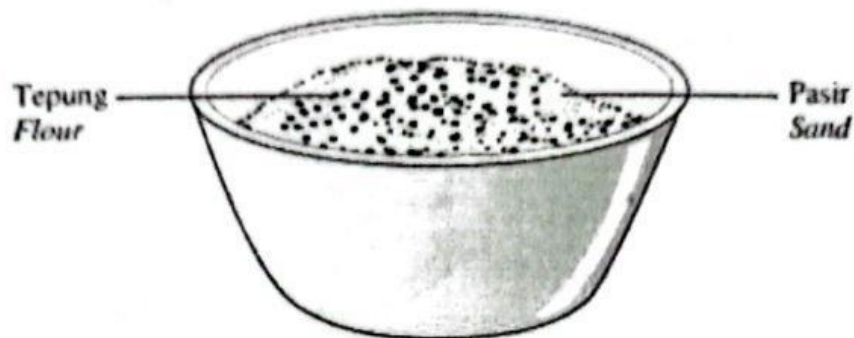


Diagram 23.1

Circle the correct words.

- i. The two substances form...

an element	a mixture	a compound
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[1 mark]

- ii. Suggest **two** separation methods that can be used to separate the two substances in Diagram 23.1.

[2 marks]

- iii. State **two** characteristics of the mixture shown in Diagram 23.1.

[2 marks]

b. Diagram 23.2 shows an experiment carried out by a student in the laboratory.

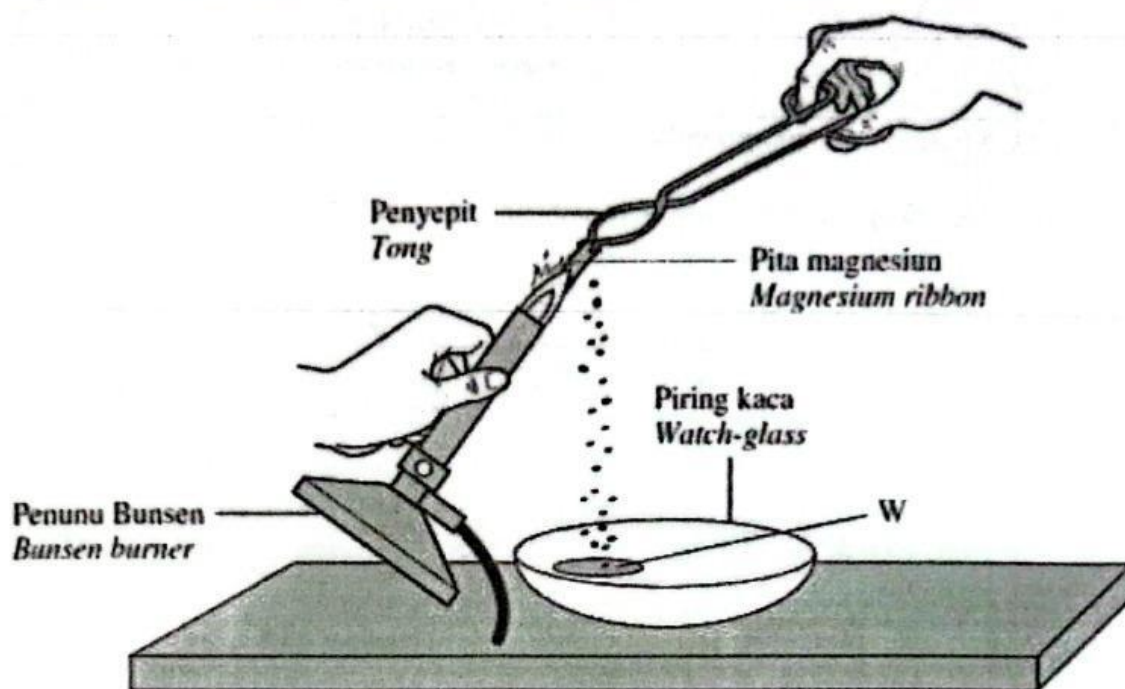


Diagram 23.2

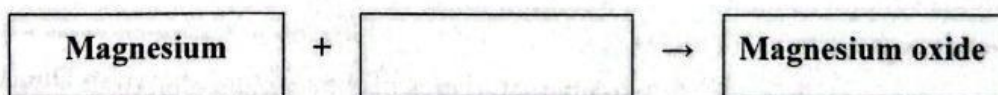
i. What is W?

[1 mark]

ii. What is the type of substance for W?

[1 mark]

iii. Complete the word equation below.



[1 mark]

iv. State two differences between magnesium and W.

[2 marks]

24. Diagram 24.1 shows the structure of an atom.

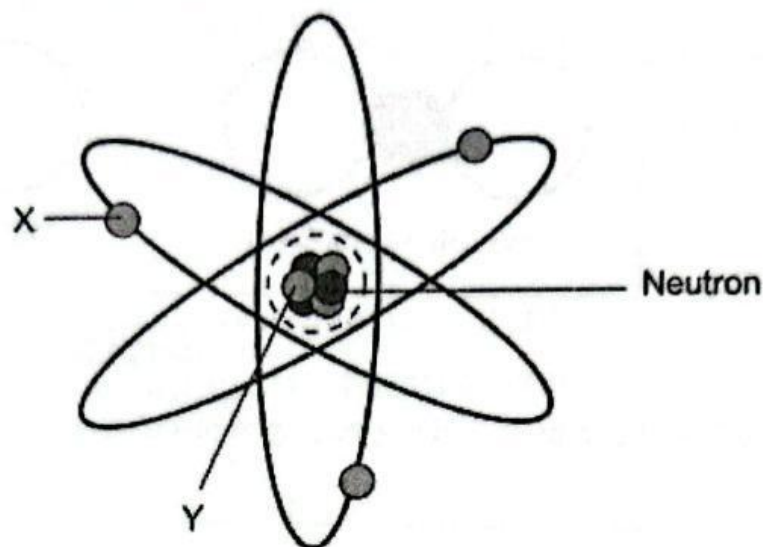


Diagram 24.1

- a. Name the subatomic particle X, Y and Z.

X: _____

Y: _____

[2 marks]

- b. State the charge of the neutron and subatomic particle Y.

Neutron: _____

Y: _____

[2 marks]

- c. What can be concluded about the number of subatomic particle X and number of subatomic particle Y in an atom? Explain your answer.

[2 marks]

- d. Diagram 24.2 shows a carbon dioxide molecule and an oxygen molecule.

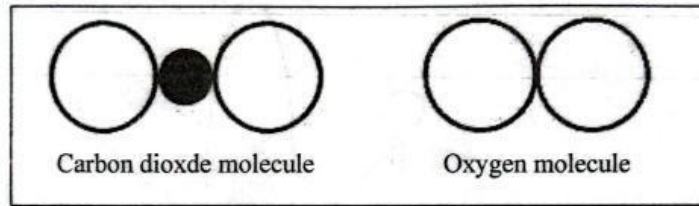


Diagram 24.2

Based on Diagram 24.2, describe how molecules are formed from atoms.

[2 marks]

- e. Based on Diagram 24.2, state the difference between an oxygen molecule and a carbon dioxide molecule in terms of the types of atoms that form them.

[2 marks]