

O Level Combined Chemistry Structured

Elements, Compounds and Mixtures Test 1.0

Q1

The Fig. 2.1 represent the structures of three unknown substances, A, B and C.

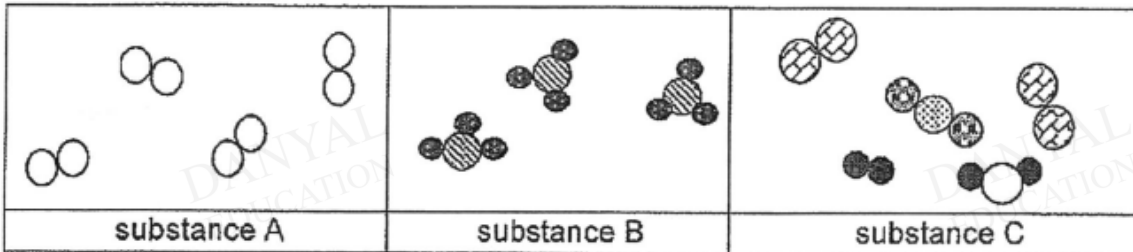


Fig 2.1

Complete the table below by

- stating whether each substance is an element, compound or a mixture,
- identifying the unknown substances from the list given below.

air	ammonia	hydrogen gas	methane	steel
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substance	element, compounds or mixture	possible identity of substance
A		
B		
C		

[3]

Q2

Classify each substance in Table 2.1 by placing a tick (✓) in one box in each row.

Table 2.1

substance	element	compound	mixture of elements	mixture of compounds	mixture of elements and compounds
air					
bronze					
helium					
copper(II) sulfate solution					

[2]

Q3

Fig. 1.1 represents the structures of three unknown substances, A, B and C.

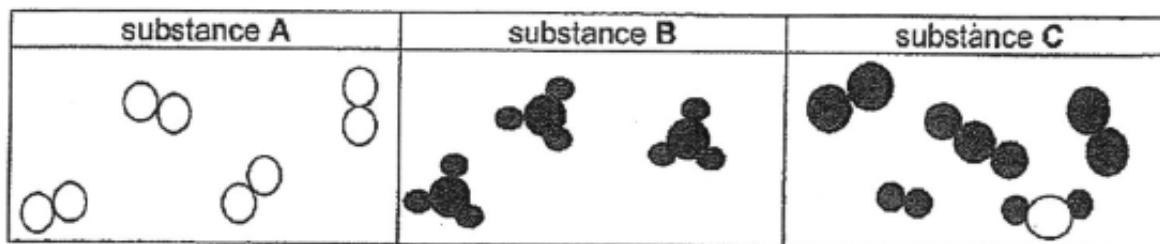


Fig. 1.1

Complete Table 1.1 by

- stating if the substance is an element, compound or mixture,
- determining a possible identity of the substance by selecting a substance from the list given below.

ammonia air argon brass carbon dioxide nitrogen
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Table 1.1

substance	element, compound or mixture	possible identity of substance
A		
B		
C		

[3]

[Total: 3]

Q4

Complete the following table by stating if the substance is an element, compound or mixture, and giving one use for each substance. [3]

The first line, for hydrogen, has been completed for you.

substance	type of substance	use
hydrogen	<i>element</i>	<i>making of margarine</i>
brass		
ethanol		
bitumen		

Q5

Most substances can be placed into only one of the five groups listed in Table 2.1.

group	letter
element	A
compound	B
mixture of elements	C
mixture of compounds	D
mixture of elements and compounds	E

Table 2.1

(a) State two differences between compounds and mixtures.

.....

.....

.....[2]

(b) Which of the groups, A, B, C, D and E in Table 2.1, best describes each of the following substances?

petroleum

bronze

oxygen

sodium oxide

[2]

Answers

Elements, Compounds and Mixtures Test 1.0

Q1

substance	element, compounds or mixture	possible identity of substance
A	element	hydrogen gas
B	compound	ammonia
C	mixture	air

½ marks for each correct answer.

[3]

Q2

air (mixture of elements and compounds)
 bronze (mixture of elements)
 helium (element)
 copper(II) sulfate (compound)

[2]
 Every two correct, 1 mark awarded

Q3

(a)(b)	substance	element, compound or mixture	possible identity of substance
	A	element	nitrogen
	B	compound	ammonia
	C	mixture	air

[1] for each correct row

Q4

brass	mixture	make coins, medals, musical instruments	[3]
ethanol	compound	as a fuel, make alcoholic drinks, as a solvent for paint and drugs	
bitumen	mixture	repair road surface	

1 mark for 2 correct entries; no 1/2 mark
Accept any other possible answer for uses

Q5

(a) Any two:

- Compounds have a fixed ratio/ composition; mixtures have a variable ratio/ composition [1]
- Compounds are made up of two or more elements chemically combined together; mixtures are made up of two or more elements and/or compounds physically mixed together [1]
- Compounds can be separated into their constituent elements only by chemical reaction; mixture can be separated into their constituent components by physical methods [1]
- Compounds have different physical and chemical properties compared to their constituents; mixture has similar physical and chemical properties as their constituent components [1].

(b)

petroleum – D

bronze – C

oxygen – A

sodium oxide – B