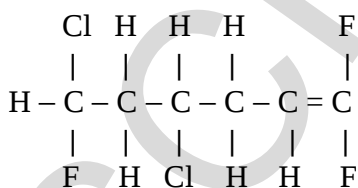


Section A: Multiple Choice (Nos. 1-4, 1-mark each)

Use the multiple choice answer sheet in the ANSWER BOOKLET

1. A suitable catalyst for the synthesis of ammonia is:
(A) platinum
(B) iron
(C) concentrated H_2SO_4
(D) nitric acid
2. A dry precipitate of $\text{Mg}(\text{NH}_4)\text{PO}_4 \cdot 6\text{H}_2\text{O}$ was obtained and weighed. It was found to weigh 6.47 g. How much of this precipitate is phosphorus?
(A) 0.82 g
(B) 1.46 g
(C) 0.03 g
(D) 1.64 g
3. Damage to the Earth's stratospheric ozone has mainly been due to a certain group of compounds. Which of the compounds given below is an example of this group of compounds?
(A) CClF_3
(B) CCl_2FH
(C) CF_2I_2
(D) CF_3H
4. Which of the following **IUPAC** names is correct for the compound given below?



- (A) 1,1,6-trifluoro-4,6-dichlorohexane
- (B) 4,6-dichloro-1,1,6-trifluoro-2-hexene
- (C) 1,1,6-trifluoro-4,6-dichlorohexene
- (D) 4,6-dichloro-1,1,6-trifluoro-1-hexene

Sample: $2 + 4 =$ (A) 2 (B) 6 (C) 8 (D) 9
 A ☐ B ☒ C ☐ D ☐

A B C D

A  B  C  D 

Multiple Choice Answer Sheet

- | | | | | |
|----|-----|-----|-----|-----|
| 1. | A O | B O | C O | D O |
| 2. | A O | B O | C O | D O |
| 3. | A O | B O | C O | D O |
| 4. | A O | B O | C O | D O |

Section B. Answer the questions in the spaces provided. Show all relevant working in questions involving calculations

MARKS

5. Describe a chemical test and the result to identify

(a) copper ions **1**

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(b) lead ions **1**

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(c) calcium ions **1**

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6. A student investigated the sulfate content of a fertiliser. Firstly, he dissolved 3.2 g of fertiliser in distilled water. Then, he added barium chloride solution until no further precipitate formed. He, then filtered, washed, dried and weighed the precipitate.

(a) Write a net ionic equation for the formation of the precipitate. **1**

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(b) If the student recovered 5.6 g of barium sulfate. What percentage of this fertiliser is sulfate ions? **2**

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(c) If the student assumed the original fertiliser consists of ammonium sulfate only, what is the percentage of nitrogen in the fertiliser? **2**

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Student No.

MARKS

7. (a) List three different chemical occupations

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(b) (i) Choose one of these occupations and outline the role of the chemist.

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(ii) Explain a chemical principle used by this chemist.

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8.. Identify the origins of minerals in oceans.

2

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MARKS

9. (a) Use equations to show the destruction of ozone in the stratosphere by a CFC.

3

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- (b) Explain the importance of the ozone layer to life on Earth.

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10. Describe two methods which you would use, including details of the preparation which you would do to determine the dissolved solids content of a sample of river water.

3

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Student No.

MARKS

11. (a) Draw the Lewis electron dot structures for the oxygen molecule and the oxygen free radical. 1

oxygen molecule	oxygen free radical

- (b) On the basis of molecular structure and bonding, explain the difference in:

- (i) chemical reactivity of ozone and oxygen (O_2) 1

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- (ii) one physical property of ozone and oxygen (O_2) 1

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A **END OF TEST**