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

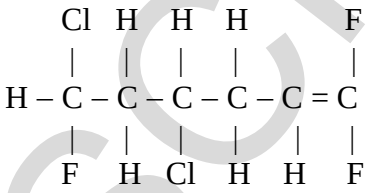
2. A dry precipitate of $Mg(NH_4)PO_4.6H_2O$ was obtained and weighed . It was found to weigh 6.47 g. How much of this precipitate is phosphorus?

(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

Answer Booklet for Sections A and B **Student No.....**

INSTRUCTIONS

Select the alternative A, B, C or D that best answers the question. Fill in the response oval completely.

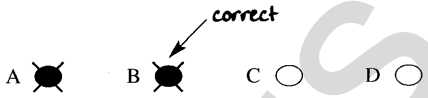
Sample: 2 + 4 = (A) 2 (B) 6 (C) 8 (D) 9

A ○ B ● C ○ D ○

If you think you have made a mistake, put a cross through the incorrect answer and fill in the new answer.

A ● B ⊗ C ○ D ○

If you change your mind and have crossed out what you consider to be the correct answer, then indicate the correct answer by writing the word ~~correct~~ and drawing an arrow as follows.



Section A

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 **1**

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(b) (i) Choose one of these occupations and outline the role of the chemist. **1**

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(ii) Explain a chemical principle used by this chemist. **1**

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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. **1**

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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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END OF TEST