

Summary Quiz (Chapter 46)

Section A: Multiple Choice

1. Which of the following substances are insoluble in water at room temperature?
- (1) BaSO_4
 (2) CuCO_3
 (3) PbCl_2
- A. (1) and (2) only B. (1) and (3) only
 C. (2) and (3) only D. (1), (2) and (3)

2. On heating a white solid X, the solid turns yellow and a brown gas is given off. The yellow residue changes to white on cooling. Which of the following combinations about solid X and the brown gas is correct?

	Solid X	Brown gas
A.	Zinc bromide	Bromine
B.	Lead(II) bromide	Bromine
C.	Zinc nitrate	Nitrogen dioxide
D.	Lead(II) nitrate	Nitrogen dioxide

3. A white precipitate forms when adding aqueous ammonia to compound Y. The precipitate dissolves in excess aqueous ammonia. What would compound Y be?
- A. Aluminium nitrate B. Zinc sulphate
 C. Copper(II) chloride D. Silver nitrate
4. Which of the following methods can be used to distinguish between carbon dioxide and sulphur dioxide?
- (1) Bubbling the gases into acidified potassium dichromate solution
 (2) Bubbling the gases into acidified silver nitrate solution
 (3) Bubbling the gases into limewater
- A. (1) only B. (2) only
 C. (1) and (3) only D. (2) and (3) only
5. Which of the following substances CANNOT be used to test for the presence of sulphite ions in a sample solution?
- A. Acidified potassium permanganate solution
 B. Bromine
 C. Dilute sodium hydroxide solution
 D. Dilute hydrochloric acid

Section B: Structural Question

Compound A is a green solid. It dissolves in distilled water to form a green solution. When adding 0.1 M NaOH(aq) to an aqueous solution of A, a green precipitate forms. The precipitate turns reddish brown when standing in air.

- (a) Deduce the cation present in compound A.
- (b) Write the chemical formula of the green precipitate.
- (c) (i) State the type of reaction involved when the green precipitate turns reddish brown.
(ii) Write an equation for the chemical change in (c)(i).
- (d) A few drops of acidified silver nitrate solution are added to an aqueous solution of A. A white precipitate forms.
 - (i) Suggest an acid that can be used to acidify silver nitrate solution.
 - (ii) Explain why silver nitrate solution needs to be acidified.
 - (iii) Deduce the chemical formula of compound A.

The End

Suggested Answer**Section A**

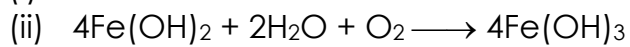
1.	D	4.	A
2.	C	5.	C
3.	B		

Section B Structured questions

(a) Iron(II) ion / Fe^{2+}

(b) $\text{Fe}(\text{OH})_2$

(c) (i) Oxidation



(d) (i) Dilute nitric acid

(ii) To prevent the formation of other precipitates such as silver sulphate and silver carbonate

(iii) Iron(II) chloride / FeCl_2

The End