

O Level Pure Chemistry MCQs

Qualitative Analysis Test 1.0

Q1

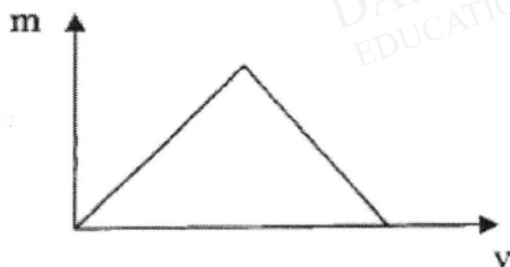
When an aqueous salt was warmed with aqueous sodium hydroxide and aluminium foil, a gas which turned moist red litmus paper blue was evolved.

Which of the following could **not** be the aqueous salt?

- A ammonium chloride
- B ammonium nitrate
- C sodium chloride
- D sodium nitrate

Q2

In a test for the presence of a cation in an aqueous salt solution, aqueous sodium hydroxide is added slowly until in excess. The diagram shows how the mass (m) of the precipitate varies with the volume (v) of sodium hydroxide added.



Which of the following could **not** be the aqueous salt?

- A aluminium nitrate
- B calcium nitrate
- C lead(II) nitrate
- D zinc nitrate

Q3

A series of tests are carried out on an unknown gas. The table below shows the tests and the results obtained.

test	result
moist blue litmus paper	no change
aqueous bromine	no change
lighted splint	extinguishes

What could the gas be?

- A ammonia
- B chlorine
- C ethene
- D oxygen

Q4

Compound X is a white solid. When X is warmed with sodium hydroxide solution, a gas with pungent smell is liberated. The gas turns moist red litmus paper blue. When a solution of X is treated with dilute hydrochloric acid, bubbles are seen in the solution.

What is X most likely to be?

- A ammonium sulfate
- B ammonium carbonate
- C potassium nitrate
- D potassium hydrogen carbonate

Q5

Which pair of reagents can be used to test for the presence of chloride ions in an aqueous solution?

- A aqueous barium nitrate and nitric acid
- B aqueous barium nitrate and sulfuric acid
- C aqueous silver nitrate and hydrochloric acid
- D aqueous silver nitrate and nitric acid

Q6

The following tests were carried out on a green solid.

- I It produced water when it was gently heated alone.
- II It gave a green precipitate when dissolved in water and added to aqueous ammonia
- III It gave a white precipitate when dissolved in water and added to silver nitrate solution.

From these tests, identify the green solid.

- A anhydrous copper (II) chloride
- B hydrated iron (II) chloride
- C hydrated iron (II) sulfate
- D hydrated copper (II) sulfate

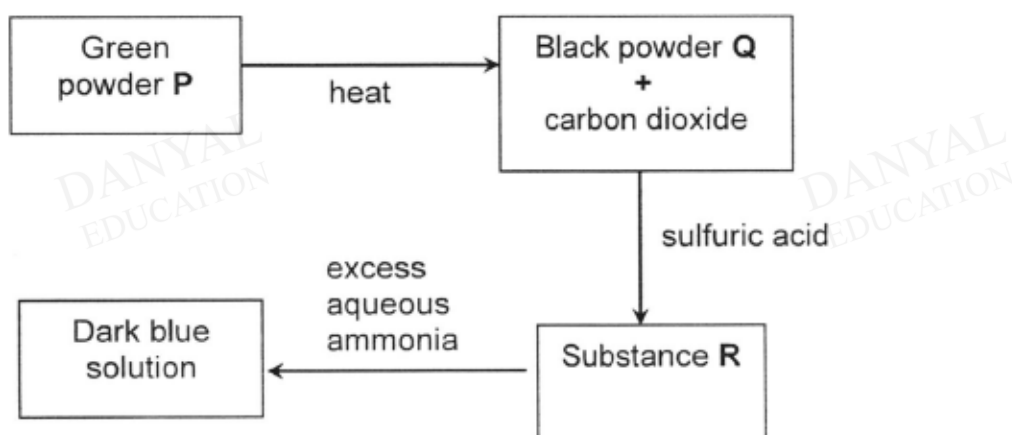
Q7

Which one of the following reagents gives a precipitate with a solution of $\text{Cu}^{2+}(\text{aq})$, which dissolves in excess reagent?

- A $\text{NaOH}(\text{aq})$
- B $\text{NH}_3(\text{aq})$
- C $\text{AgNO}_3(\text{aq})$
- D $\text{Na}_2\text{CO}_3(\text{aq})$

Q8

The diagram below shows a series of tests starting with substance **P**.

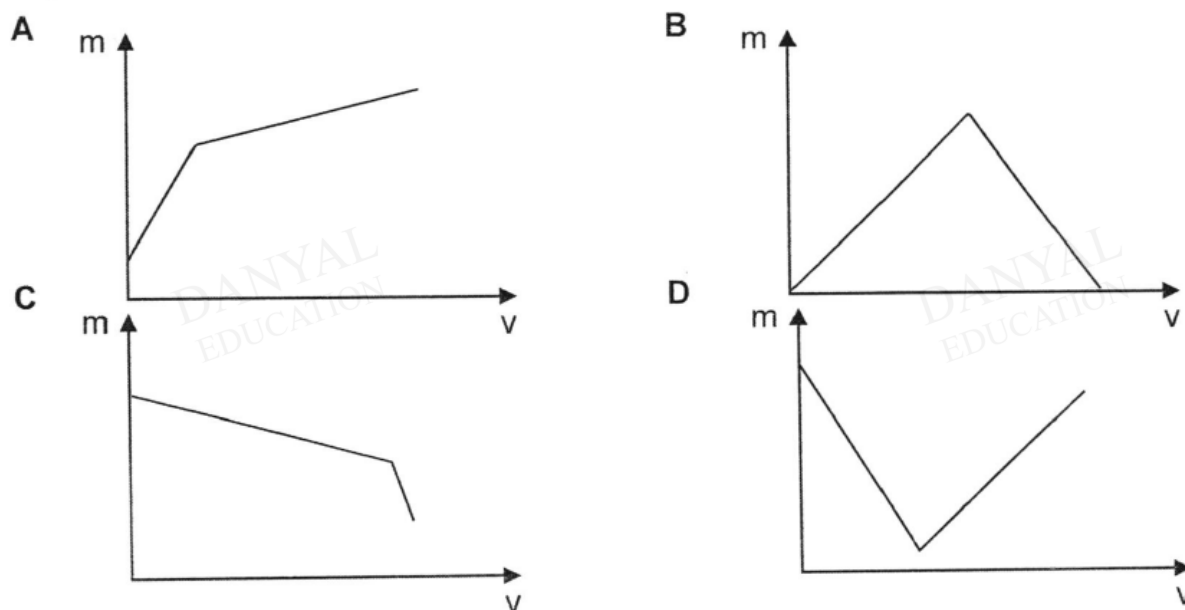


Which of the following statements is **true**?

- A **P** can react directly with dilute sulfuric acid to give **R**.
- B **Q** reacts with acids to liberate hydrogen gas.
- C Substance **R** is also green in colour
- D **R** forms a green precipitate with aqueous sodium hydroxide.

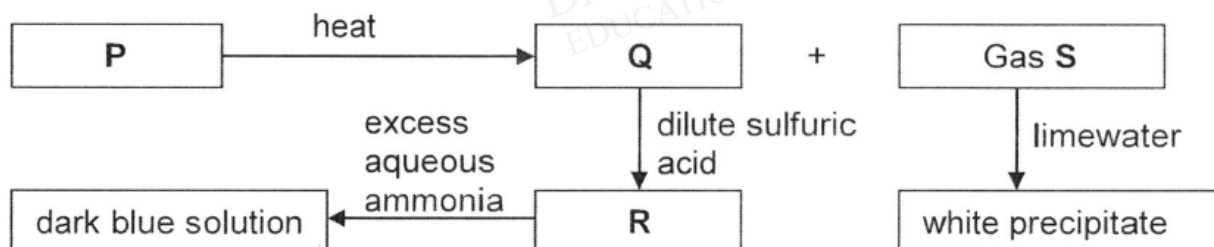
Q9

In a test for the presence of lead(II) ions in a solution, aqueous sodium hydroxide is added slowly till excess. Which of the following diagrams shows how the mass (m) of the precipitate varies with the volume (v) of the aqueous sodium hydroxide added?



Q10

The diagram below shows a series of tests starting with **P**.



Which of the following statement(s) is/are true?

- P** can react directly with sulfuric acid to produce **R**.
- Q** dissolves readily in water to form a blue solution.
- R** forms a blue precipitate which remains insoluble in excess aqueous sodium hydroxide.

- A** i only
B iii only
C i and ii only
D i and iii only

Answers

Qualitative Analysis Test 1.0

Q1 C

Q2 B

Q3 A

Q4 B

Q5 D

Q6 B

Q7 B

Q8 A

Q9 B

Q10 D

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