

O Level Combined Chemistry MCQs

Qualitative Analysis Test 1.0

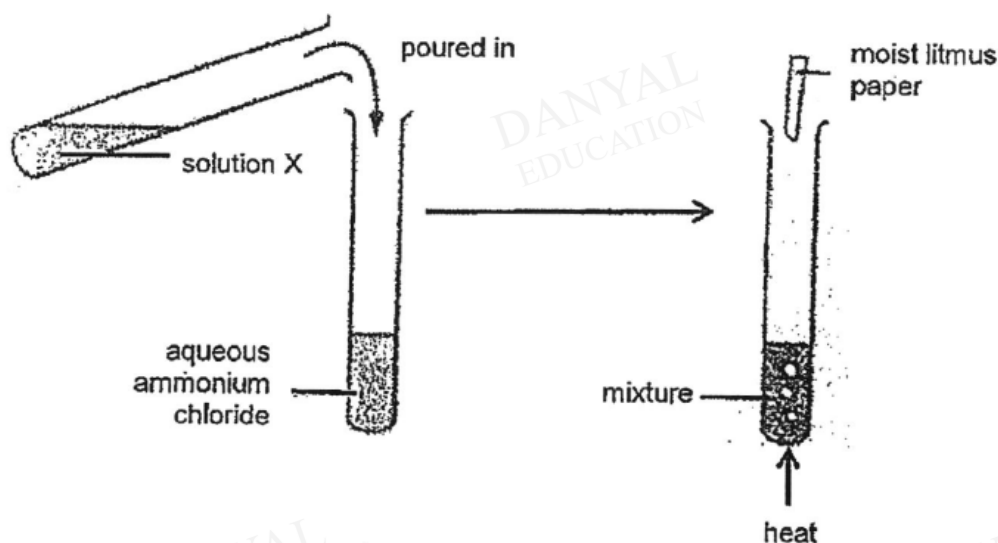
Q1

Which of the following solutions can be used to distinguish between sodium hydroxide solution and aqueous ammonia?

- A lead(II) nitrate solution
- B iron(II) chloride solution
- C iron(III) chloride solution
- D zinc sulfate solution

Q2

An aqueous solution X was reacted with aqueous ammonium chloride and the mixture was heated. A gas, Y, is produced which changes colour of the moist litmus paper.



A gas Y, is produced which changes the colour of the moist litmus paper.

What are solution X and gas Y?

	solution X	gas Y
A	aqueous sodium hydroxide	ammonia
B	aqueous sodium hydroxide	chlorine
C	dilute sulfuric acid	ammonia
D	dilute sulfuric acid	chlorine

Q3

A gas, R, has the following properties:

- 1 a choking smell
- 2 turns damp blue litmus red, then bleached it
- 3 does not react with acidified potassium manganate (VII)

What is R?

- A ammonia
- B carbon dioxide
- C chlorine
- D sulfur dioxide

Q4

An analysis of salt S gave the following results.

Test 1: When solid S was warmed with aqueous sodium hydroxide and aluminium foil, colourless and pungent gas was produced. The gas turns moist red litmus paper blue.

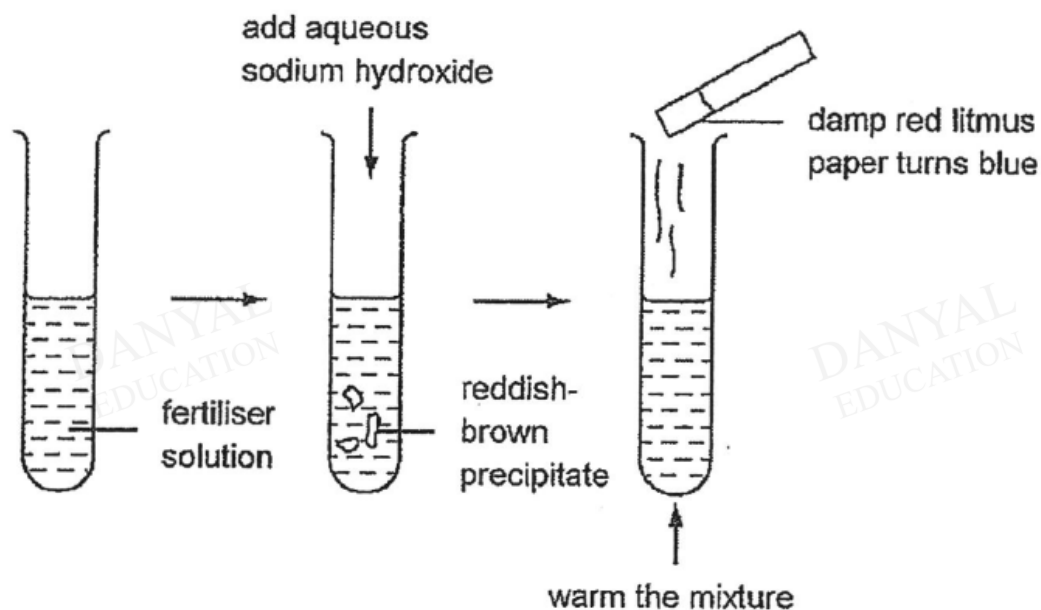
Test 2: When excess aqueous sodium hydroxide was added to a solution of S, a colourless solution was formed.

What could salt S be?

- A zinc nitrate
- B zinc carbonate
- C calcium carbonate
- D calcium nitrate

Q5

A solution of fertiliser was tested.



Which ions are present in the fertiliser solution?

- A Fe^{2+} and NO_3^-
- B Fe^{2+} and NH_4^+
- C Fe^{3+} and NO_3^-
- D Fe^{3+} and NH_4^+

Q6

When heated, solid Z gives off a gas. When this gas is bubbled through limewater, a white precipitate is formed.

When a salt solution prepared using solid Z was reacted with excess aqueous sodium hydroxide, a white precipitate was formed.

What is Z?

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

Q7

A student was given a mixture containing ammonium sulfate and iron(II) sulfate.

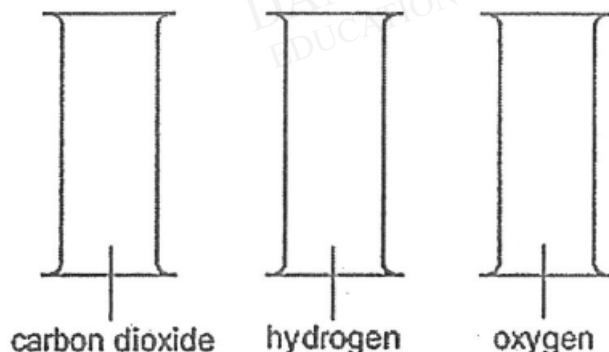
He added excess aqueous sodium hydroxide, with shaking to a hot solution of the salts in a boiling tube until there was no further reaction. The boiling tube was then left to stand for some time.

Which one of the following observations would **not** be made?

- A A green precipitate was produced.
- B A pungent gas which turned damp red litmus blue was produced.
- C The precipitate dissolved in excess aqueous sodium hydroxide.
- D The precipitate turned brown on standing.

Q8

Three gas jars contain carbon dioxide, hydrogen and oxygen, as shown.



Which one of the following tests could be used to identify the gases in each jar?

- A a glowing splint
- B a lighted splint
- C damp blue litmus paper
- D limewater

Q9

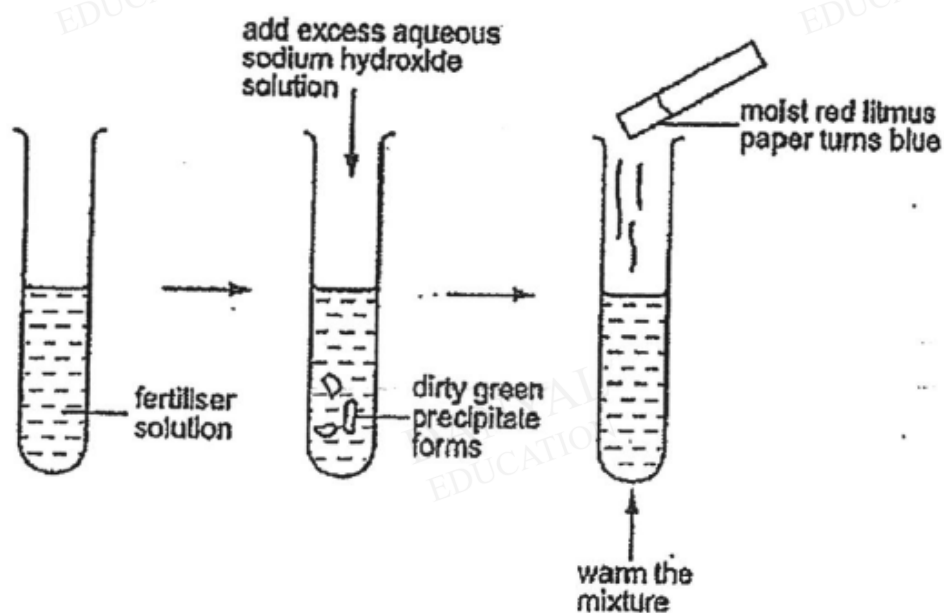
An aqueous solution of compound P reacts with aqueous ammonia to form a red-brown precipitate. Aluminium powder was then added and the mixture was heated. A gas that turns damp red litmus paper blue was evolved.

What is P?

- | | | | |
|---|--------------------|---|-------------------|
| A | iron(II) chloride | B | iron(III) nitrate |
| C | copper(II) nitrate | D | ammonium chloride |

Q10

A solution of fertiliser was tested as shown below.



Which ions must be present in the fertilizer?

- | | | | |
|---|--------------------------------------|---|--------------------------------------|
| A | NH_4^+ and NO_3^- | C | Fe^{2+} and NO_3^- |
| B | NH_4^+ and Fe^{2+} | D | Fe^{3+} and NH_4^+ |

Answers

Qualitative Analysis Test 1.0

Q1 A

Q2 A

Q3 C

Q4 A

Q5 D

Q6 D

Q7 C

Q8 B

Q9 B

Q10 B

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