

Q1.

What is a use for barium sulfate?

- A In agriculture to act as a fertiliser
- B In agriculture to neutralise acidic soil
- C In medicine to produce an X-ray image
- D In medicine as an antacid to treat indigestion

(Total 1 mark)**Q2.**

Which property would you expect the element radium, Ra, to possess?

- A It forms a soluble sulfate.
- B It does not react with water.
- C It is a good conductor of electricity.
- D It forms a covalent fluoride.

(Total 1 mark)**Q3.**Which statement is **not** correct?

- A Strontium has a lower first ionisation energy than calcium.
- B Strontium has a larger ionic radius than calcium.
- C Strontium reacts less vigorously with water than calcium.
- D Strontium hydroxide is more soluble in water than calcium hydroxide.

(Total 1 mark)

Q4.

Which property of the Group 2 elements, Ca to Ba, increases with increasing atomic number?

- A Atomic Radius
- B Electronegativity
- C First ionisation energy
- D Melting Point

(Total 1 mark)**Q5.**

What is the correct observation when barium metal is added to an excess of water?

- A Forms a colourless solution only
- B Forms a colourless solution and effervesces
- C Forms a white precipitate only
- D Forms a white precipitate and effervesces

(Total 1 mark)**Q6.**

An aqueous solution of a salt gives a white precipitate when mixed with aqueous silver nitrate and when mixed with dilute sulfuric acid.

Which could be the formula of the salt?

- A BaCl_2
- B $(\text{NH}_4)_2\text{SO}_4$
- C KCl
- D $\text{Sr}(\text{NO}_3)_2$

(Total 1 mark)

Q7.

Which substance is used to reduce titanium(IV) chloride in the extraction of titanium metal?

- A Magnesium
- B Manganese
- C Vanadium
- D Zinc

(Total 1 mark)**Q8.**

Which statement about barium sulfate is correct?

- A It is soluble in water at a temperature of 100 °C.
- B It is used in medicine because it does not dissolve in body fluids.
- C It is a pale yellow solid.
- D It reacts with acidified barium chloride solution.

(Total 1 mark)**Q9.**

Which compound is used to treat the symptoms of indigestion?

- A MgO
- B Mg(OH)₂
- C CaO
- D Ca(OH)₂

(Total 1 mark)

Q10.

Which products are formed when magnesium reacts with steam?

- A Magnesium hydroxide and hydrogen
- B Magnesium hydroxide and oxygen
- C Magnesium oxide and hydrogen
- D Magnesium oxide and oxygen

(Total 1 mark)

Q11.

Which of these decreases down Group 2?

- A First ionisation energy
- B Atomic radius
- C Number of protons
- D Reactivity with water

(Total 1 mark)

Q12.

Sulfur dioxide (SO_2) is produced when some fossil fuels are burned.

Which of the following statements is true?

- A Sulfur dioxide can be removed from waste gases in a power station by an acid-base reaction with calcium oxide.
- B Sulfur dioxide is insoluble in water.
- C Sulfur dioxide is a basic oxide.
- D Sulfur dioxide is an ionic compound.

(Total 1 mark)