Practice Question Set For A-Level
Subject : Chemistry
Paper-1 Topic: Inorganic 1

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Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

Q1.

Which statement is correct?

A Calcium oxide is used to remove sulfur dioxide from flue gases. ⬭

B Calcium has a larger atomic radius than barium. ⬭

C Magnesium has a lower electronegativity than barium. ⬭

D Magnesium is used to oxidise titanium(IV) chloride in the extraction of titanium. ⬭

(Total 1 mark)

Q2.

Barium metal is added to a large excess of water.

Which observation is correct **and** complete?

A a colourless solution ⬭

B a colourless solution with effervescence ⬭

C a dense white precipitate ⬭

D a dense white precipitate with effervescence ⬭

(Total 1 mark)

Q3.

Which statement is correct?

A Magnesium reacts with steam to give magnesium oxide as one of the products. ⬭

B Magnesium acts as an oxidising agent in the extraction of titanium. ⬭

C Magnesium has a lower melting point than sodium. ⬭

D Magnesium hydroxide is very soluble in water. ⬭

(Total 1 mark)

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Q4.

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)

Q5.

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)

Q6.

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)

Q7**.**

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)

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Q8.

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)

Q9.

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 $(NH_4)_2SO_4$ ⬭

C KCl ⬭

D $Sr(NO_3)_2$ ⬭

(Total 1 mark)

Q10.

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)

Q11.

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)

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Q12.

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)

Q13.

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)

Q14.

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)

Q15.

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)

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Q16.

Which one of the following is a correct procedure for isolating a sample of hydrated copper(II) sulphate from a mixture of hydrated copper(II) sulphate and barium sulphate?

A filter, crystallise filtrate, dry the crystals

B filter, dry the solid on the filter paper

C add water, filter, dry the solid left on the filter paper

D add water, filter, crystallise filtrate, dry the crystals

(Total 1 mark)

Q17.

Which one of the following is the electron arrangement of the strongest reducing agent?

A $1s^2\ 2s^2\ 2p^5$

B $1s^2\ 2s^2\ 2p^6\ 3s^2$

C $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^5$

D $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2$

(Total 1 mark)

Q18.

Which one of the following statements is correct?

A The first ionisation energies of the elements in Period 3 show a general decrease from sodium to chlorine.

B The electronegativities of Group 2 elements decrease from magnesium to barium.

C The strength of the intermolecular forces increases from hydrogen fluoride to hydrogen chloride.

D The ability of a halide ion to act as a reducing agent decreases from fluoride to iodide.

(Total 1 mark)

Q19.

An aqueous solution of a sodium salt gave no precipitate when treated with either silver nitrate solution or barium chloride solution. Which one of the following could be the formula of the sodium salt?

A NaI

B Na_2SO_4

C NaBr

D NaF

(Total 1 mark)

Q20.

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Which one of the following solutions would **not** give a white precipitate when added to barium chloride solution?

A silver nitrate solution

B dilute sulphuric acid

C sodium sulphate solution

D sodium nitrate solution

(Total 1 mark)

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