

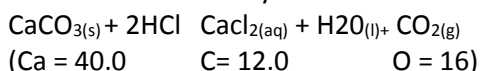
BARICHO HIGH SCHOOL
FORM 3 CHEMISTRY ASSIGNMENT END OF TERM 1 YR 2020

NAME _____ **CLASS** _____ **ADM** _____

1a) State Grahams law.

b) 30cm³ of oxygen gas diffused through porous plug in 25 seconds. How long would it take 30cm³ of sulphur IV oxide gas to diffuse through the same plug (S=32.0 O = 16.0)

2. Calculate the amount of calcium carbonate that would remain if 3.0g of calcium carbonate were reacted with 0.04 moles of hydrochloric acid.



3. Explain why high temperature is required for Nitrogen to react with air

4. Copper (II) ions react with excess aqueous ammonia to form a complex ion.

Ai) Write the equation for the reaction that form the complex ion

ii) Name the complex ion

b) Explain why CH₄ is not acidic while HCl is acidic yet both compounds contain hydrogen.

5. A sample of hydrocarbon burn completely to form 3.52g of carbon IV oxide gas and 1.44g of water . determine the molecular of the hydrocarbon.

(Rmm of the hydrocarbon = 56.0 CO₂ = 44 H₂O = 18 C = 12.0 H = 1.0

6. Hydrogen sulphide is highly toxic and flammable gas.

a) Name two reagents used to prepare hydrogen sulphide gas in the laboratory.

b) Why is concentrated sulphuric VI acid not used to dry hydrogen sulphide gas.

c) Write the equation for the reaction that occurs when this gas is combusted in scarce air.

7. 20cm³ of a solution containing 4g/l of sodium hydroxide were neutralized by 8cm³ of adibasic acid H₂X. Find the concentration of the acid in moles per litre

(Na = 23 O=16 H=1)

8. Sulphur is one of the elements that exhibit allotrope.

a) What is an allotrope

Distinguish between flowers of sulphur and plastic sulphur.

9a) A solution was made by dissolving 8.2g of calcium nitrate in 2 litres 8.2g of calcium nitrate in 2 litres of solution (Ca = 40 N= 14 O = 16)

Determine the concentration of nitrate ions in moles per litre.

10. Describe a simple laboratory experiment that can be used to distinguish between sodium sulphide and sodium carbonate.

11a) State the Gay Lussac's law.

b) 10cm³ of a gaseous hydrocarbon C₂H_y required 30cm³ of oxygen for complete combustion. If steam and 20cm³ of carbon IV oxide gas were produced. Find the value of Y.

- 12a) Describe two chemical methods that can be used to test the presence of sulphur IV oxide .
- b) Concentrated sulphuric VI acid reacts with ethanol and copper metal.
- i) State the property of the acid shown in each case.
- ii) Write the equation for the reaction between concentrate sulphuric VI acid and carbon.