GATITU DAY MIXED SECONDARY SCHOOL

CHEMISTRY FORM 1

END TERM EXAM 50 MKS

1. a) After use, a non-luminous flame should be put off or adjusted to a luminous flame . Explain (1mk)

b) Putting off flames after use is one of the safety rules in the laboratory. State 4 other rules. (2mks)

2. The graph below shows the shape of the curve obtained by a student when solid X was heated to boiling.

Time in minutes

(a) i. Determine the melting point of solid x. (1mk)

ii. State and explain what proportions PQ, QR and RS represent. (3mks)

(b) If candle wax was used in this experiment the portions QR would not be horizontal. What does this tell us? (2mks)

3. Name elements in the following compounds.

a) Magnesium nitride (1mk)

b) Potassium iodide (1mk)

4. Describe the procedure of separating sodium chloride from a mixture of sodium chloride and sand. (3mks)

5. Spots of pure pigments A and B, and a mixture Z were placed on a filter paper and allowed to dry. The paper was then dipped in a solvent. The results obtained were as on the paper chromatogram.

(a) Which is the:

i. Base line? (1mk)

ii. Solvent front (1mk)

(b) Which of the pure pigments was a component of Z? Explain. (2mks)

(c ) i. Name solvent that is used in paper chromatography. (1mk)

ii. Why is water not suitable solvent in paper chromatography? (2mks)

6. Write a word equation for the reaction between:

i. Carbon and oxygen (1mk)

ii. Copper and chlorine (1mk)

7. a) What are acid –base indicators (2mks)

b) The table below shows effects of various solutions on indicators. Fill in the missing colours. (3mks)

|  |  |  |  |
| --- | --- | --- | --- |
| Indicator | acid | base | Neutral |
| Litmus | red |  |  |
| Phenolphthalein |  | pink | Colourles |
| Methyl orange |  |  | Orange |

8. a) Write word equations for the reaction between dilute hydrochloric acid and each one of the following:

i. zinc metal (1mk)

ii. Calcium hydrogen carbonates (1mk)

iii. Potassium hydroxide (1mk)

(b) Which one of the reactions is a neutralization reaction? (1mk)

9. Dilute sulphuric acid was added to a compound of magnesium P. The solid reacted with the acid to form a colourles solution Q and colourless gas R which formed a white precipitate when bubbled through lime water.

a) Name:

i. Compound P. (1mk)

ii. Solution Q (1mk)

iii. Colourless gas R (1mk)

b) Write a word equation for the reaction that took place (2mks)

c) State the observations that would be made if a similar compound of calcium was used instead of magnesium. Explain. (3mks)

10. Explain why cars in the coastal city of Mombasa rust faster than cars in kisumu city. (2mks)

11. State one advantage and three disadvantages of rusting. (2mks)

12. The apparatus below were used to determine the volume of oxygen in air. About 200 cm3 of air were passed repeatedly from syringes A to syringe B overheated copper turning as shown in the diagram.

After sometimes, the volume of air in syringe A was 160 cm3 and syringe B 0 cm3.

a) Calculate the percentage of oxygen in the initial sample of air (3mks)

b) Write down a word equation for the reaction that took place in the combustion tube. (1mk)

c) Give two possible sources of error in the experiment? (2mks)