NAME……Stream……

DEPARTMENT OF CHEMISTRY

MID-TERM II EXAMINATION

CHEMISTRY

TIME: 2 HOURS

Instructions

Attempt all questions

Circle the correct answer for section A

Answer for section B must be written in the space provided

SECTION A

1. The process which increase the concentration of oxygen in the atmosphere is
   A. Rusting
   B. B. Photosynthesis
   C. Respiration
   D. Combustion of fuels

2. Which one of the following is not true about acid rain. Acid rains damage
   A. Tarmacked roads
   B. Trees
   C. crops
   D. roofs

3. Which one of the following is not an industrial method of preventing rusting?
   A. Alloying
   B. Greasing
   C. Galvanizing
   D. Electro planting

4. The salt that can be prepared by precipitation methods is
   A. Na_2CO_3
   B. $(NH_4)_2CO_3$
   C. $BaSO_4$
   D. $Cu(NO_3)_2$

5. Ghee may easily be separated from milk by
   A. Decantation
   B. Centrifugiration
   C. filtration
   D. Crystallization.
6. Yy
7. Ll
8. ..
9. ..
10. ,,

11. Which one of the following carbonates will decompose to form an oxide when strongly heated

A. $ZnCO_3$ C. $K2CO_3$

B. Na_2CO_3 D. $NaHCO_3$

12. Lead (II) chloride is best prepared in the laboratory by

A. Dissolving lead(II) chloride in concentrated hydrochloric acid

B. Dissolving lead(II) oxide in dilute hydrochloric acid

C. Mixing cold lead(II)nitrate and sodium chloride

D. Titrating lead(II) hydroxide with dilute hydrochloric acid

13. A courless solution reacts with sodium, chloride solution to give a white precipitate. The precipitate dissolves in warm water. The colourless solution is

A. Zinc chloride C. Magnesium sulphate

B. Lead(II) chloride D. Sodium carbonate

14. When a clean iron nail was dropped in a solution of copper(II) sulpahte, a red coating was observed on the nail. This shows that

A. Copper is less reactive than Iron

B. Copper is more reactive that Iron

C. Iron(II) oxide was formed

D. (iron(III) oxide was formed

15. A compounds contains 52.92% of X, the rest being Y. the empirical formula of T is; (x = 36, Y = 16)

A. XY_2 C. X_3Y_2

B. X_2Y D. X_2Y_3

16. Pieces of Zinc granules were placed in each of the beakers containing solutions bubbles of gas were observed immediately in one of the beakers. The beakers contained

A. Sodium chloride D. Sodium carbonate

B. Copper(II) oxide D. dilute sulphuric acid

17. An Ion of element Y is $^{31}_{15}Y3-$. How many elements are present in the Ion?

A. 12 C. 16

B. 15 D. 18

18. The number of moles present in 10.6 grams of sodium carbonate is; (Na = 23, O = 16, C = 12

A. 1 C. 0.01

B. 0.1 D. 0.001

19. A hydrocarbon Q is 82.8% by mass of carbon, its molecular mass is 58. The molecular formula of Q is:;
    A. C_3H_8 C. C_5H_{12}
    B. C_4H_3 D. C_4H_{10}

20. The gas that is produced when water is added to sodium peroxide is;
    A. Hydrogen C. Oxygen
    B. Nitrogen D. Nitrogen

SECTION B

21. (a) Write equation for the reaction that would take place if each of the following was burnt separately in excess oxygen.
    (i) Magnesium (2mks)
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    ……
    ……
    ……
    (ii) Phosphorus (2mks)
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    ……
    ……

    (b) Each of the products from (a) was carefully collected, shaken with water and the resultant solution tasted with litmus paper(s). State what was observed in the case of the solution of the product from

    (i) Burnt magnesium. (1mk)
    ……
    ……
    (ii) burnt phosphorus (1mk)
    ……
    ……

22. (a) An acid Q, with the formula HxCyOz. nH2O contains 26.7% carbon, 2.2% hydrogen and 71.1% oxygen by mass

(i) Calculate the empirical formulary of anhydrous form of Q (H= 1, C = 12, O = 16). (3mks)

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(ii) Determine the values of X, Y and Z in the formula of Q. (HxCyOz = 90) (3mks)

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23. The table below shows the number of electrons, neutrons and protons in particles A to F

Particle	Electrons	Neutrons	Protons
A	19	20	19
B	18	22	18
C	19	22	19
D	10	8	8
E	10	14	13
F	2	2	2

(a) Identify the letters that represent

(i) A Cation (1mk)

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(ii) An anion (1mk)

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(iii) A pair of isotopes (1mk)

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(iv) Atoms of the element in the same group of the periodic table. (1mk)

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(v) Particle E combined with particle D to form compound W. write what would be the most accurate formula of W. (2mks)

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24. (a) Define the term salt? (1mk)

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(b) Describe how Zinc chloride crystals can be prepared from Zinc powder. (5mks)

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25. Calculate the number of moles present in the following given masses of sodium hydroxide.

(Na = 23,) = 16, H = 1)

(i) 2 grams of sodium hydroxide. (1 ½ mks)

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(ii) 0.4 grams of sodium hydroxide. (1 ½ mks)

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(iii) 8 grams of sodium hydroxide. (1 ½ mks)

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(iv) 60 grams of sodium hydroxide.

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END

AIM HIGHER