**PRESIDENT’S 0FFICE**

**REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**

**LINDI MUNICIPAL COUNCIL**

**FORM FOUR: MOCK EXAMINATION – 2019**

**CHEMISTRY-1**

**CODE: DATE: 2019**

TIME: 2:30 HOURS

INSTRUCTIONS.

1. This paper consists of three (3) Sections A, B, and C.
2. Answer all question in this paper
3. Cellular phones and calculators are not allowed in the examination room
4. Write your examination number on every page of your answer sheet.
5. The following constant may be used
6. Atomic masses H=1, C=12, O=16, N=14, Na=23, Mg=24, Al=26, S=32, Cl=35.5, Ca=40, Fe=56, Co=64, Ag=108.
7. Avogadro’s number = 6.02x1023
8. GMV at STP = 22.4dm3
9. 1 faraday = 96500 coulombs.
10. Standard pressure = 760 mmHg
11. Standard temperature = 273k
12. 1 Liter = I dm3 = 1000cm3

**SECTION: A (20 MARKS)**

**Answer all questions in this section.**

1. For each of the following items (i) - (x) choose the correct answer from the given alternatives and its later beside the item number in the answer sheet provided.
2. Which action should be taken immediately after a contracted sulphuric acid spilled on the skin.
3. It should be neutralized with a solid CaCo3.
4. It should be rinsed off with large quality of running water.
5. It should be neutralized with concentrated NaOH.
6. It should be neutralized with concentrated KOH.
7. Affected area should.
8. The oxidation state of sulphir in SO42 radical is :-
9. +2
10. +8
11. +6
12. 0
13. -2
14. As water added to an acid, the acid becomes
15. More Acidic and PH goes down
16. More Acidic and its PH goes up
17. Less Acidic and its PH goes up
18. Less acidic and its PH goes down
19. Neutral and its PH become 7
20. To be extracted from their areas requires strong method of reduction
21. Copper and Zinc
22. Zinc and Calcium
23. Sodium and Potassium
24. Tin and Gold
25. Gold and Silver
26. The charge of one mole of electrons is repented by:-
27. One ampere
28. One Volt
29. One faraday
30. One gram.
31. To obtain continuous supplies of a frequently used gas e.g.: H2. One requires the following apparatus.
32. Be chive shelf
33. Gas jar
34. Round jar
35. Round bottom flask
36. Kipp’s apparatus
37. Fractionating column
38. The morality of 5.39 Ncl2Co3in 100ml of solution is:-
39. 0.20m
40. 0.005m
41. 0.01m
42. 0.50m
43. 0.05m
44. Chlorine ions (CL-) differ from chloride (CL) atoms in that the ions have one ………. That the atom;
45. More proton
46. Less proton
47. More electron
48. Less electron
49. More neutron
50. Sodium metal is kept in oil because it
51. Sinks in oil but flouts in water
52. Reacts vigorously with water
53. Is very alkaline
54. Forms a protective coat of sodium oxide with oil
55. Forms a protective coat of sodium oxide
56. If element M of group I combines with elements X of group VI the formula of the compound formed is :-
57. X2M
58. MX6
59. MX2
60. X3M
61. M2X
62. Match the items in list A with the response in list B by writing the letters of the correct answer beside the items number in the answer book prodded.

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| **LIST A** | **LIST B** |
| 1. Presence of A13+and H+ ions in the soil 2. CH3CH2C(CH3)CH3 3. Chlorine 4. Empirical formula 5. Elements in the soil needed by plant in large amounts. 6. A coordinate bond 7. Acid- base reaction 8. Morality 9. Electrolysis 10. Carbone allotrope | 1. Graphite 2. Hoffman apparatus 3. Sodium chloride salt 4. The number of one mole in 1dm3solution 5. Displacement reaction 6. Neutralization reaction 7. One atom donates a pair of electrons to be shared in a chemical bond. 8. Micro nutmeats 9. Macro nutrients 10. Simplest formula which expire its composition by mass 11. Sodium 12. One of the product of electrolysis of molten NaCL. 13. Isomer of pentane 14. Soil acidity 15. Soil alkalinity |

1. (a) i. Define the term Hydrocarbons

ii. List down the three homologous series of hydrocarbons.

(b) i. Write down structural formula of; (i)1,2 – dichloromethane (ii) 2,3 – diethyl hexane

ii. Name the following Alkanes (i) CH3CH2CH2CH2CH3

(C) Give the meaning of Alkyl group. With two examples.

1. (a) Briefly explain how iron is obtained from its Oxide (ore)

(b) Write down the chemical equation of the following reactions between the following

(i) Ethanol and sodium metal

(ii) Propane warmed with excess acidified KMn04

(iii) Propane and acetic acid warmed to gather in the presence concentrated sulphuric

Acid.

1. (a) (i) What is soil erosion

(ii) Explain four factors that lead to soil erosion

(b) Consider elements with atomic number 1, 11, 12 and 17.

**(i)** What types of oxides formed by elements with atomic number 11 and 12

**(ii)** Write down an equation which represents a reaction between the elements with

atomic number 1 and 17

**(iii)** Write down a balance chemical equation between the oxide of the elements with

atomic number 11.

1. (a) Differentiate between;

**(i)** Isotopes and allotropes

**(ii)** Protons and neutrons

(b)Dalton’s atomic theory contains assumptions concern the matter in which elements combines

with one another state these assumptions.

(c) A mass of 4.133g of sodium Carbonate crystals (Na2Co3, XH2O) was heated gently and

3.533g of anhydrous compound remained. Calculate the value of X.

1. (a) i. Define the term pollution

ii. List down the three (3) main types of pollution

(b) What is the importance of ozone layer in the earth’s atmosphere?

(e) i. Explain the effects of destroying the ozone layer

ii. Which gases must not be produced in order to present the destruction of ozone layer?

1. (a) List two differences between metals and non metals.

(b) i. Name two physical properties of carbon which do not justify its classification as non

metal

ii. Explain why non metals are generally termed as oxidizing agent

1. (a) i. What is an ionic bond?

ii. Define a radical

iii. Draw electronic diagram to show the corselet bonding between hydrogen and

chlorine in a hydrogen chloride gas molecule

iv. Explain why covalent compound do not conduct electricity

(b) What is the Oxidation state of Fe partied in a FeCL3 molecule?

(C) Study carefully the electronic configuration of elements Q, R and S given below then

answer the question that follows .

1. What type of bond will exist in a compound farmed when Q combines with R
2. In what group and period in the periodic table does element S occupy
3. What is the valency of element Q
4. Write a molecular formula of a compound formed when element R combines with S.

**SECTION: C 26 Marks**

**Answer all questions**

1. Consider a four carbon hydrocarbon (C4Hn) where n is an integer. Name the three homologous series represented by the above hydrocarbon. In each homologous servers name the particular member represented by the C4Hn. For each member give the structural formula, the isomers and the causes of Isomerism.
2. The formation of oxides of non-metals can be both beneficial and harmful to man. Justify the statement focusing on the oxides of carbon, nitrogen and sulphur