XI-STANDARDED CHEMISTRY IMPORTANT 5 -MARK FOR LESSONWISE QUARTERLY PORTION FOR IN ORGANIC

1.CHEMICAL CALCULATION

Problems are compulsory for 2 & 3 mark questions

1. Explain oxide method
2. Explain chloride method
3. Explain assigning rules of oxidation number
4. Explain victor-Mayer's process (Without calculation)
5. Explain Redox reaction
6. Explain chemical equation balancing
7. Explain What is Reduction and Oxidation reactions
8. A compound on analysis gave the following percentage composition C = 54.54%, H, 9.09% O = 36.36. The vapour density of the compound was found to be 44. Find out the molecular formula of the compound.
9. A compound on analysis gave the following percentage composition: Na=14.31% S = 9.97%, H = 6.22%, O = 69.5%, calcualte the molecular formula of the compound on theassumption that all the hydrogen in the compound is present in combination with oxygen as water of crystallisation. Molecular mass of the compound is 322 [Na = 23, S = 32, H = 1, O = 16].
10. 4.5g of urea (molar mass = 60g mol^{-1}) are dissolved in water and solution is made to 100 ml in a volumetric flask. Calculate the molarity of solution.
11. Calculate the normality of solution containing 3.15g of hydrated oxalic acid ($H_2C_2O_4.2H_2O$) in 250ml of solution (Mol.mass = 126).
12. Calculate the molality of an aqueous solution containing 3.0g of urea (mol.mass=60) in 250g of water
13. 0.548 g of the metal reacts with dilute acid and liberates 0.0198 g of hydrogen at S.T.P. Calculate the equivalent mass of the metal.Calculate the equivalent mass of the metal0.635 g of a metal gives on oxidation 0.795g g of its oxide
14. Calculate molecular mass by Victor-Meyer's Method .0.790 g of a volatile liquid displaced 1.696 x $10^{-4}m^3$ of moist air at 303 K and at 1 x 10^5 Nm^{-2} pressure. Aqueous tension at 303 K is 4.242 x 10^3 Nm^{-2}. Calculate the molecular mass and vapour density of the compound.
15. Calculate the formula weight of each of the following to three significant figures, using a table of atomic weight (AW): (a) chloroform $CHCl_3$ (b) Iron (III) sulfate $Fe_2 (SO_4)_3$.
16. H_2O_2 is a colourless liquid. A concentrated solution of it is used as a source of oxygen for Rocket propellant fuels. Dilute aqueous solutions are used as a bleach. Analysis of a solution shows that it contains 0.909 mol H_2O_2 in 1.00 L of solution. What is the mass of H_2O_2 in this volume of solution?.
17. Boric acid, H_3BO_3 is a mild antiseptic and is often used as an eye wash. A sample contains 0.543 mol H_3BO_3. What is the mass of boric acid in the sample?.
18. CS_2 is a colourless, highly inflammable liquid used in the manufacture of rayon and cellophane. A sample contains 0.0205 mol CS_2. Calculate the mass of CS_2 in the sample
19. A substance on analysis, gave the following percentage composition, Na = 43.4%, C = 11.3%, O = 43.3% calculate its empirical formula [Na = 23, C = 12, O = 16].

20. What is the simplest formula of the compound which has the following percentage composition: Carbon 80%, hydrogen 20%.

21. A compound on analysis gave the following percentage composition: C - 54.54%, H = 9.09%, O = 36.36%

22. An organic compound was found to have contained carbon = 40.65%, hydrogen = 8.55% and Nitrogen = 23.7%. Its vapour - density was found to be 29.5. What is the molecular formula of the compound?

23. A compound contains 32% carbon, 4% hydrogen and rest oxygen. Its vapour density is 75. Calculate the empirical and molecular formula.

24. An acid of molecular mass 104 contains 34.6% carbon, 3.85% hydrogen and the rest is oxygen. Calcualte the molecualr formula of the acid.

25. What is the simplest formula of the compound which has the following percentage composition: carbon 80%, Hydrogen 20%, If the molecular mass is 30, calcualte its molecular formula

26. Calculate the oxidation number of underlined elements in the following species.

    a) $\underline{Mn}SO_4$ b. $\underline{S}_2O_3$ c. $\underline{H}NO_3$ d. $K_2\underline{Mn}O_4$ e. $\underline{N}H_4$

2.GENERALINTRODUCTION OF METTALURGY

1. What is ore?
2. what is mineral?
3. What is gangue ?
4. What is calcination?
5. Give some examples for oxide ore?
6. Give some examples for sulphide?
7. What are the ore is separated by froth-floatation?
8. Mention the different types of purification
9. What is roasting?
10. What is meant by electrolytic refining?
11. Explain froth-flotation process
12. Explain zone refining
13. Explain chemical method
14. Explain different type of roasting
15. Explain magnetic separation
16. Explain Mond's process
17. Explain Bessemerisation

3.ATOMIC STRUCTURE-I

1. What is atom?
2. What is atomic number?
3. What is mass number of atom?
4. What is called nucleons?
5. What is orbital?
6. Atom is electrically neutral Justify your answer
7. Give exact and expect electronic configuration of chromium and copper
8. State Heisenberg's uncertainty principle
9. Explain stability of an atom
10. State Stark effect
11. State zeeman's effect
12. Postulates of Bohr's model of an atom
13. Explain Limitation of Bohr's Theory
14. What is quantum numbe?r
15. Explain different type of quantum numbers
• Explain shape of orbitals
16. State Pauli's exclusion principle
17. Mention Uses of the principle
18. State Hund's rule of maximum multiplicity
19. State Aufbau Principle

4.PERIODIC CLASSIFICATION-I

1. State Dobereiner's Triads
2. State Rule of Ocatave
3. State Periodic law by Mendeleev
4. Explain long periodic table
5. Mention Electronic configuration of s,p,d,f block elements
6. What is meant by transuranium element?
7. What are the block is called representative elements?
8. What is meant by semi metals?
9. What is ionisation energy?
10. What is atomic radii?
11. What is electron gain enthalpy?
12. What is electro negativity?
13. State modern periodic law?
14. Mention variation of ionisation energy along the group and period
15. differentiate electron gain enthalpy and electro negativity

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16. What are the properties are periodic properties?
17. What are the factors are affected by electron affinity?
18. What are the factors are affected by ionisation energy?
19. Why noble gases are zero electron affinity?
20. Why noble gases are higher ionisation energy?
21. What are the electronic conguration are stable?
22. Why Be and Mg have their EA values equal to zero?
23. Why Ionization energy of boron is lower than that of beryllium?
24. Give IUPAC name of atomic number 101 to 105
25. What is first ionisation energy?

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