Class : 11

Register Number

UNIT TEST -1, JULY - 2024

CHEMISTRY

Time Allowed : 1.30 Hours] [Max. Marks : 35

PART - I

I. Choose the correct answer. **5x1=5**

1. Which one of the following is used as a standard for Atomic mass?

   a) $_6C^{12}$ b) $_7C^{12}$ c) $_6C^{13}$ d) $_6C^{14}$

2. The total number of Orbitals associated with the Principal quantum number n = 3 is ----------

   a) 9 b) 8 c) 5 d) 7

3. Maximum deviation from Ideal gas is expected from ----------

   a) $CH_{4(g)}$ b) $NH_{3(g)}$ c) $H_{2(g)}$ d) $N_{2(g)}$

4. The general formula for Alkadiene is ----------

   a) C_nH_{2n} b) C_nH_{2n-1} c) C_nH_{2n-2} d) C_nH_{n-2}

5. The equivalent mass of a Trivalent metal element is 9 g eq^{-1} The molar mass of its anhydrous oxide is ----------

   a) 102 g b) 27 g c) 270 g d) 78 g

PART - II

II. Answer any three questions. Q.No. 8 is Compulsory. **3x2=6**

6. Define Relative Atomic Mass?
7. State Boyles's Law?
8. How many Orbitals are possible for n = 4?
9. Calculate the equivalent mass of Sulphuric Acid?
10. Write a note on Homologous Series?

PART - III

III. Answer any three questins. Q.No. 15 is compulsory. **3x3=9**

11. Distinguish between Oxidation and Reduction.
12. Describe the Aufbau Principle?
13. Derive Ideal gas Equation.
14. Give the Electronic Configuration of Mn^{2+} and Cr^{3+}?

15. Give the IUPAC names of the following Compounds.

i) $CH_2 = CH - CH = CH_2$

ii) $CH_3 - \underset{\underset{CH_3}{|}}{CH} - \underset{\underset{Br}{|}}{CH} - CH_3$

PART - IV. **3x5=15**

IV. Answer all the questions.

16. a) Calculate the Empirical and molecular formula of the compound containing 76.6% Carbon, 6.38% hydrogen and rest Oxygen. Its Vapour density is 47. **(5)**

(OR)

b) Write a short note on

i) Principal Quantum number ii) Azimuthal Quantum number **(5)**

17. a) Derive the values of Critical constants in terms of Vander Waals Constants. **(5)**

(OR)

b) i) Derive De - Broglie Equation? **(3)**

ii) Calculate the Oxidation number of underlined elements **(2)**

(A) $\underline{S}O_2$ (B) $\underline{C}H_2F_2$

18. a) i) Give the General Characteristics of Organic Compound. **(3)**

ii) What is meant by a Functional Group? **(2)**

(OR)

b) Give the Structure of the following Compound **(5)**

i) 3 - Chlorobutanol

ii) 3 - Ethyl - 2 - methyl 1 - pentene

iii) 3 - methyl butan 2 - ol

iv) Acetaldehyde

v) Tertiary butyl Iodide