

FIRST QUARTERLY TEST AUGUST 2024

CLASS : I PUC

SUBJECT : CHEMISTRY (34)

Max. Marks : 35

TIME : 1 Hr. 30 Mins.

PART-A

I Select the correct option from the given choices :

7x1=7

- 1) The SI unit of density is
a) g cm^{-3} b) kg m^{-3} c) kgm^3 d) cm^3
- 2) The value of Avagadro number is
a) 6×10^{22} b) 6.22×10^{23} c) 6.022×10^{-23} d) 6.022×10^{23}
- 3) The number of moles of solute present in one litre of the solution is called
a) Molarity b) Molality c) Mole fraction d) Mass percent
- 4) Down the group, atomic radius
a) Decreases b) Increases
c) Initially increase then decreases d) Doesn't change
- 5) The most electronegative element in the periodic table is
a) Fluorine b) Chlorine c) Bromine d) Idoine
- 6) The functional group of aldehyde is
a) $-\text{OH}$ b) $-\text{COOH}$ c) $-\text{CHO}$ d) $-\text{CO}-$
- 7) The IUPAC name of $\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \text{CH}_2 - \text{CH}_3$ is
a) 2-ethyl propane b) Isopentane c) 2-Methyl butane d) 3-Methyl butane

II Fill in the blanks by choosing appropriate word from those given in brackets: 3x1=3
[nucleophile, unnilbium, electrophile, four]

- 8) The number of significant figures in 8005 is _____.
- 9) The IUPAC name of the element with atomic number 102 is _____.
- 10) The reagent that brings an electron pair to the reaction site is called _____.

PART-B

III Answer any THREE of the following questions. Each question carries 2 marks:

3x2=6

- 11) State Law of definite proportions.
- 12) Size of cation is less than its parent neutral atom. Why ?
- 13) How does ionisation enthalpy varies across the period and down the group ?
- 14) Explain functional isomerism with an example.
- 15) a) Define limiting reagent.
b) Round up 34.216 upto three significant figures.

PART-C

IV Answer any ONE of the following questions. Each question carries 3 marks: 1x3=3

- 16) a) State modern periodic law. (2)
b) Which group elements in the periodic table are called Halogens ? (1)
(P.T.O)

- 17) a) What are isoelectronic species ? (1)
 b) Arrange the following in the increasing order of their ionic radius
 O^{2-} , Na^+ , F^- , Mg^{2+} (2)

V Answer any ONE of the following questions. Each question carries 3 marks: 1x3=3

- 18) a) Write any two postulates of Dalton's atomic theory. (2)
 b) Express 0.0025 in the scientific notation. (1)
- 19) a) Define i) Molar Mass ii) 1 amu. (2)
 b) Cisplatin is used in the treatment of which disease ? (1)

PART-D

VI Answer any TWO of the following questions. Each question carries 5 marks: 2x5=10

- 20) a) Give any two differences between Inductive and electromeric effect. (2)
 b) What are free radicals ? How they are formed ? (2)
 c) Give an example for electrophile. (1)
- 21) For the compound $CH_3 - CH = CH - CH_3$
 i) Calculate the number of σ and π bonds. (2)
 ii) Identify the type of hybridisation of each carbon atom. (2)
 iii) Write the bond line formula of the compound. (1)
- 22) a) What are heterocyclic compounds ? (1)
 b) What is Homologous series ? Give one example. (2)
 c) Give one example each for Benzenoid and non-benzenoid compounds. (2)

PART-E

VI Answer any ONE of the following questions. Each question carries 3 marks: 1x3=3

- 23) A compound contains 4.07% of hydrogen, 24.27% of carbon and 71.65% of chlorine.
 Calculate its empirical formula.
 (Atomic mass of H = 1.008 u
 Atomic mass of C = 12.01 u
 Atomic mass of Cl = 35.453 u)
- 24) $CaCO_3$ decomposes to product CO_2 according to the equation
 $CaCO_{3(s)} \xrightarrow{\Delta} CaO_{(s)} + CO_{2(g)}$
 Calculate the mass of $CaO_{(s)}$ and $CO_{2(g)}$ Produced on complete decomposition of 10g of $CaCO_{3(s)}$
 (Given Molar mass of $CaCO_3 = 100 \text{ g/mol}$
 Molar mass of $CaO = 56 \text{ g/mol}$
 Molar mass of $CO_2 = 44 \text{ g/mol}$)
