

A.Moorthy MSc,B.Ed

**HIGHER SECONDARY 1ST YEAR
CHEMISTRY**

MODEL QUATERLY QUESTION PAPER

TIME:2 ½ Hrs

MARKS:70

PART-I

- I. Answer all the questions.
Choose the most appropriate answer**

15x1=15

1. The formula of NaCl is
a) 22.9 amu b) 35.45 amu c) 58.1 amu d) 58.44 amu
2. Froth gravity separation is suitable for concentrating ----- ores
a) Sulphide b) Oxide c) Carbonate d) Halide

3. Consider the following statements
1. Transition metals have the $ns^{1-2}(n-1)d^{1-10}$ electronic configuration
2. Cl⁻ ion is bigger than Cl atom
3. Second ionization potential is lesser than the first ionization potential
Which of the following statement(s) given above is/are not correct.
a) 1,2 and 3 b) only 2 c) only 3 d) 2 and 3

4. Match the list I with list II and select the correct answer using the code given below the lists.

List I		List II	
A	SF ₆	1	tetrahedral
B	BeCl ₂	2	Octahedral
C	CH ₄	3	Triangular
D	BCl ₃	4	Linear

Code:

- a.1234
b.4321
c.2413
d.1342

5. The unsaturated hydrocarbon which contain one carbon-carbon sigma bond and carbon-carbon pi bond are known as
a) Alkanes b) Alkenes c) Alkyne d) SO₃

A.Moorthy MSc, Bed

6. The Weiss indices of a plane are $\frac{1}{2}, \frac{1}{2}, \frac{1}{2}$. Its miller indices will be -----.
- a) (0,1,1) b) (1,0,1) c) (2,2,2) d) (1, 1, 1)
7. Excluded volume per molecule is -----
- a) $4V_m$ b) $2V_m$ c) $\frac{V_m}{2}$ d) $4nV_m$
8. The compound which contains both ionic and covalent is
- a) CH_4 b) H_2 c) KCN d) KCl
9. pi bonding is present in-----
- a) HCl b) O_2 c) Cl_2 d) H_2
10. In TLC the stationary phase is a
- a) Liquid b) Solid c) Gas d) None
11. IUPAC name of $\text{CH}_2=\text{CH}-\text{COCH}_2\text{CH}_3$ is
- a) n-prapanone b) Pent-1ene-3-one c) 3-pentanone d) Acetone
12. Chromatographic technique was first introduced by
- a) M.S.Tswett b) Thomson c) Dolton d) Bohr
13. In which molecule sp^3 hybridisation has not involved
- a) CH_4 b) BF_3 c) H_2O d) NH_3
14. $PV=nRT$ is
- a) Real gas equation b) Ideal gas equation c) Boyl's equation d) Charl's equation
15. Electron affinity of chlorine is-----than fluorine
- a) Less b) More or Less c) Greater d) Equal

A.Moorthy MSc,B.Ed

PART-II

II . Answer Any Six Questions in which Question No.21 is compulsory 6x2=12

16. Calculate the normality of solution containing 3.15g of hydrated oxalic acid in 250 ml of solution.(Mol.Mass=126)
17. What are the metals native in state
18. How atom is electrically neutral?
19. Write the significance of Vanderwaal's constant „a“ and „b“
20. Draw Lewis electronic dot structure for the following compound a)NaCl b) CO₂ c)H₂O
21. Substantiate with reason NH₃ is a Nucleophile and AlCl₃ is an electrophile.
22. 0.12g of an organic compound gave on combustion 0.11g of CO₂.
Calculate the percentage of C in the organic compound.
23. Write notes on Aldol condensation reaction.
24. Predict the structure of NH₃ VSEPR theory ?

PART-III

III. Answer Any Six Questions in which Question No.30 is compulsory

6x3=18

25. What are the information provided by the four quantum numbers
26. Mention the type of paper chromatography
27. Write the electronic configuration of s,p,d,f block elements
28. Define Isotropy and Anisotropy.
29. The critical temperature of hydrogen gas is 33.2 °C and its critical pressure is 12.4 atm.
Find out the values of 'a' and 'b' for the gases

A.Moorthy M.Sc,B.Ed

30. (i) How do spacing of the three planes (100) (110) and (111) of cubic lattice vary
 (ii) Calculate miller indices of crystal planes which cut through the crystal axes at
 (i) (2a,3b,c) (ii) (a,b,c)
31. Write the action of ethene with alkaline cold.KMnO₄,
32. Write the two methods of preparation of free radicals
33. Complete the following Reaction
 a. $C_6H_5COCH_3 \xrightarrow{Zn/Hg}$
 HCL
 b. $2KCNO+(NH_4)_2SO_4 \rightarrow$

PART-IV

IV Answer All the Questions

5x5=25

34. i. Calculate the Equivalent mass of KOH (2)
 ii. How will you determine equivalent mass of an element by chloride method. (3)

(or)

- i. Describe the principle process involved in the purification of the metal by this
 Electromagnetic separation method.(3)
 ii. Distinguish between ores and minerals with suitable example.(2)

35. i. An atomic orbital has n=3.What are possibility values of l ?
 and l =3 What are the possible values of m = ?. (3)
 ii. Write a note on Stark effect. (2)
 (or)
 i. Explain the liquification of gases by Claude"s method.(3)
 ii. Classify the following gases NH₃, N₂, H₂, CO₂ as "permanent" and
 "temporary" gases.(2)

36. Calculate the lattice enthalpy of CaCl₂ given that the enthalpy of
 (i) sublimation of Ca is 121 KJmol⁻¹
 (ii) Dissociation of Cl₂ to 2Cl is 242.8 KJmol⁻¹
 (iii) Ionization of Ca to Ca²⁺ is 2432 KJmol⁻¹
 (iv) Electron gain for Cl to Cl⁻ is 355 KJmol⁻¹

A.Moorthy.MSc,B.Ed

(or)

Distinguish between covalent and ionic compounds properties

37. i. Explain type of isomerism.(3)
ii. Define R_f value of chromatography (2)

(or)

- i. Discuss the principle and procedure involved in purification of organic compound by column chromatography .(3)
ii. Why organic compounds need to be purified(2)

38. a. Give the structural formula for
i. Sec-butyl chloride
ii. neopentane
iii. 2-aminopropane
iv. 1-nitropropane
v. furan

(or)

- b. An organic compound contains 52% C, 13% Hydrogen and the rest of oxygen .
The molecular mass of the compound is 45.5. What is the molecular formula



PREPARED BY
A.MOORTHY.MSc,B.Ed.,
PGT-CHEMISTRY
GREEN VALLEY MAT SCHOOL |
CHENNAI-37
CELL:8754706647
EMAIL:mpchem6@gmail.com