

SECOND MID TERM TEST - 2023

Standard - XI
CHEMISTRY

Reg.No.

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Marks: 50

Time: 1.30 hrs.

PART - I

I. Choose the correct answer:

10×1=10

- What colour does barium produce in flame test?
a) Crimson red b) Yellow c) Blue d) Apple green
- Formula of Gypsum is
a) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ b) $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ c) $3\text{CaSO}_4 \cdot \text{H}_2\text{O}$ d) $2\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
- The most common oxidation state of alkaline earth metals is
a) +1 b) +2 c) +3 d) +4
- Osmotic pressure of a solution is given by the relation
a) $\pi = nRT$ b) $\pi v = nRT$ c) $\pi RT = n$ d) none of these
- What is the molality of a 10% W/W aqueous Sodium hydroxide Solution?
a) 2.778 b) 2.5 c) 10 d) 0.4
- $\frac{\text{Number of gram equivalents of solute}}{\text{Volume of solution (in L)}} =$
a) Molarity b) Molality c) Normality d) Mole fraction
- Which of the following molecule contain no π bond?
a) SO_2 b) NO_2 c) CO_2 d) H_2O
- Shape of ClF_3 is
a) Planar triangular b) Pyramidal c) T shaped d) none of these
- Which of the following is optically active
a) 2 - methyl pentane b) Citric acid c) Glycerol d) none of the these
-  + $\text{CH}_3\text{Cl} \xrightarrow{\text{Anhydrous AlCl}_3}$
a) Phenol b) Chlorobenzene c) 1, 2, dichloro benzene d) toluene

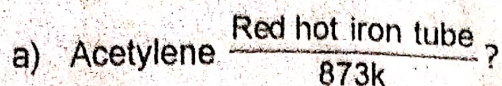
PART - II

II. Answer any 5 questions. Q.No.18 is compulsory:

5×2=10

- Define Mole fraction.
- Define the term isotonic solution.
- Write any two uses of Sodium Carbonate.
- How 'Plaster of Paris' is prepared?
- What is Covalent bond?
- Draw the Lewis dot structures for Ammonia and Methane.
- How toluene is prepared by Wurtz - Fittig reaction.

18. Complete the following:



PART - III

III. Answer any 5 questions. Q.No.26 is compulsory.

5×3=15

19. Why is beryllium different from other elements in that group?
20. Describe briefly the biological importance of Magnesium.
21. State and explain Henry's Law.
22. What is Osmosis and Osmotic pressure?
23. Describe Fajan's rule.
24. Define Huckel's rule.
25. What is polymerisation and How polyethylene is prepared?
26. Calculate the molality of a solution containing 7.5g of glycine dissolved in 500g of water.

PART - IV

IV. Answer all the questions:

3×5=15

27. a) i) How does Lithium differ other elements in that group? (any 3 differences)
 ii) Name the metals which produce the following colours during flame test.
 1) Yellow 2) Lilac 3) Crimson red 4) Brick - red
 (OR)
- b) i) Explain the preparation of Sodium Carbonate by Solvay process.
 ii) List out the general characteristics of alkali metals.
28. a) i) State Raoult's Law.
 ii) What is meant by elevation of boiling point and write its mathematical expression.
 (OR)
- b) i) What are salient features of VB theory.
 ii) What is sigma (σ) bond.
29. a) i) What is meant by Vant Koff's factor?
 ii) Define colligative property and mention the colligative properties.
 (OR)
- b) Explain the structure of Benzene.

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