

SECOND MID TERM TEST - 2024

Standard XI

Reg.No.

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CHEMISTRY





Time : 1.30 hrs

Part - I

Marks : 50

10 x 1 = 10

I. Choose the correct answer:

1. Lithium shows diagonal relationship with
 - a) sodium
 - b) magnesium
 - c) calcium
 - d) aluminium
2. In which process, fused sodium hydroxide is electrolysed for extraction of sodium?
 - a) Castner's process
 - b) Cyanide process
 - c) Down process
 - d) All of these
3. 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) $2\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
4. According to Raoult's law the relative lowering of vapour pressure for a solution is equal to
 - a) mole fraction of solvent
 - b) mole fraction of solute
 - c) number of moles of solute
 - d) number of moles of solvent
5. Which of the following is electron deficient?
 - a) PH_3
 - b) $(\text{CH}_3)_2$
 - c) BH_3
 - d) NH_3
6. Which one of the following is diamagnetic?
 - a) O_2
 - b) O_2^{2-}
 - c) O_2^+
 - d) None of these
7. Which of the following molecule contain no π -bond?
 - a) SO_2
 - b) NO_2
 - c) CO_2
 - d) H_2O
8. Which of the following compounds will not undergo Friedel-Crafts reaction easily?
 - a) Nitro benzene
 - b) Toluene
 - c) Cumene
 - d) Xylene
9. Which one of the following is non aromatic?
 - a) 
 - b) 
 - c) 
 - d) 

10.
$$\begin{array}{c} \text{CH}_2 - \text{CH}_2 \\ | \quad | \\ \text{Br} \quad \text{Br} \end{array} \xrightarrow{\text{(A)}} \text{CH} \equiv \text{CH} \text{ where A is}$$
- a) Zn
 - b) conc. H_2SO_4
 - c) alc. KOH
 - d) dil. H_2SO_4

Part - II

II. Answer any 5 questions. (Q.No.17 is compulsory)

5 x 2 = 10

11. Why do alkali metals give colour to flame?
12. How is Plaster of Paris prepared?

13. Give the uses of Gypsum.
14. What are colligative properties?
15. State Henry's law.
16. What is the (π) bond?
17. Draw the Lewis dot structure of SO_3 molecule.
18. State Markovnikoff's rule.

Part - III

III. Answer any 5 questions. (Q.No.22 is compulsory)

5 x 3 = 15

19. What are ideal and non-ideal solutions?
20. What is osmotic pressure?
21. What are hypotonic and hypertonic solutions?
22. Draw the molecular orbital diagram of H_2 molecule.
23. Write Fajan's rule.
24. What is bond order?
25. What is BHC? Write its preparation.
26. Describe the conformers of n-Butane.

Part - IV

IV. Answer all the questions.

3 x 5 = 15

27. a) How sodium hydroxide is prepared commercially by Castner-Kellner process?

(OR)

b) Write the Biological importance of Calcium and Magnesium.

28. a) Write the following reactions.

i) Friedel-Crafts reaction

ii) Wurtz-Fittig reaction

(OR)

b) Describe the structure of Benzene.

29. a) How is the molar mass of a solute determined from elevation of boiling point?

(OR)

b) Discuss the formation of N_2 molecule using Mo Theory.
