

SECOND MIDTERM EXAM - 2022

CLASS : 11
TIME : 1.30 HRS

CHEMISTRY

MARKS : 50

PART - I

I. Choose the Correct Answer.

10 x 1 = 10

1. When CaC_2 is heated in atmospheric nitrogen in an electric furnace the compound formed is
 a) $\text{Ca}(\text{CN})_2$ b) CaNCN c) CaC_2N_2 d) CaNC_2
2. The name "Blue John" is given to which of the following compound.
 a) CaH_2 b) CaF_2 c) $\text{Ca}_2(\text{PO}_4)_2$ d) CaO
3. Formula of plaster of paris
 a) $3\text{CaSO}_4 \cdot \text{H}_2\text{O}$ b) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ c) $2\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ d) $\text{CaSO}_4 \cdot 1/2\text{H}_2\text{O}$
4. is used in devising photoelectric cells.
 a) Lithium b) Sodium c) potassium d) Caesium
5. Osmotic pressure (π) of a solution is given by the relation
 a) $\pi = nRT$ b) $\pi V = nRT$ c) $\pi RT = n$ d) $V = \pi nRT$
6. The molality of a solution containing 1.8g of glucose dissolved in 250g of water is
 a) 0.2 M b) 0.01 M c) 0.02 M d) 0.04 M
7. Which one of the following binary liquid mixtures exhibits positive deviation from Raoult's law?
 a) Acetone + chloroform b) Water + nitric acid
 c) $\text{HCl} + \text{H}_2\text{O}$ d) Ethanol + water
8. Some meta-directing substituents in aromatic substitution are given. Which one is most deactivating?
 a) $-\text{COOH}$ b) $-\text{NO}_2$ c) $-\text{C}\equiv\text{N}$ d) $-\text{SO}_3\text{H}$
9. The Compound that will react most readily with gaseous bromine has the formula.
 a) C_3H_6 b) C_2H_2 c) C_4H_{10} d) C_2H_4
10. Which of the following is optically active.
 a) 2-methylpentane b) citric acid c) Glycerol d) none of these

PART - II

II. Answer any FIVE of the following. Q.No.16 is compulsory.

5 x 2 = 10

11. Give the systematic names of the following. a) milk of magnesia b) soda ash
12. Mention the uses of plaster of paris.

13. Define the term isotonic solution.
14. What is relative lowering of vapour pressure?
15. What is osmotic pressure?
16. What happens when ethylene is passed through cold dilute alkaline potassium permagnate?
17. What is polymerisation? Give an example.

PART - III

III. Answer any FIVE of the following. Q.No.22 is compulsory.

5 x 3 = 15

18. Give the uses of gypsum (any three)
19. Beryllium halides are covalent whereas magnesium halides are ionic why?
20. What are the limitations of Henry's law.
21. State Raoult's law.
22. 5.845g of sodium chloride is dissolved in water and the solution was made up to 500ml using a standard flask. Find the concentration in molarity.
23. Explain Markownikoff's rule with suitable example.
24. How do you prepare benzene hexa chloride (BHC) from benzene?

PART - IV

IV. Answer All the questions.

3 x 5 = 15

25. Discuss the similarities between beryllium and Aluminium. (OR)
 - (i) Describe briefly the biological importance of calcium and magnesium.
 - (ii) Write the balanced chemical equation for heating calcium carbonate.
26. Using Raoult's law, find the expression for lowering of vapour pressure when nonvolatile solute is dissolved in solvent. (OR)
 - i) What are colligative properties?
 - ii) Write a note on ideal and non ideal solution.
27.
 - (i) State Huckel's rule help to decide aromatic character of a compound.
 - (ii) Write the structure of the following alkanes.
 - (a) 3,3 - dimethyl pentane
 - (b) 2,3 - dimethyl pentane (OR)
 - (i) Suggest a simple chemical test to distinguish propane and propene.
 - (ii) $\text{CH}_3\text{Br} + 2 \text{Na} + \text{CH}_3\text{Br} \xrightarrow[\text{ether}]{\text{dry}} ?$

(i) It is used to making drywall.
 (ii) It is used to making Surgical and plaster.
 (iii) It is used to important role in Agriculture.