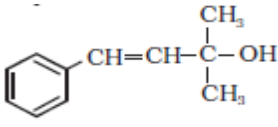




S.NO	SECTION-A
1	The corrosion of metal is prevented by covering the surface with chemical like ____. a) Phenol b) HCl c) Bisphenol d) H_2SO_4
2	The example of a co-polymer is ____. a) Buna S b) Nylon -6 c) Nylon 6,6 d) Teflon
3	Which one of the following is used as a tranquilizer drug? a) Promethazine b) Valium c) Naproxen d) Mifepristone
4	The value of Henry's constant K_H is a) Larger for gases with higher solubility b) Larger for gases with lower solubility c) Constant for all gases d) Not related to the solubility of the gases
5	Aryl halides are extremely less reactive towards nucleophilic substitution reactions due to different reasons. The incorrect reason is a) Resonance effect b) Difference in the hybridization of C in C-H bond c) Attraction between nucleophile and Haloarene d) Instability of Phenyl cation
6	The polymer which does not belong to synthetic rubber is ____. a) Neoprene b) Buna- N c) Buna -S d) Nylon -6
7	The change in molar conductivity for weak electrolytes with dilution is due to ____. a) Increase in degree of dissociation b) Decrease in degree of dissociation c) Solvation d) Migration of ions
8	According to Ellingham diagram, the oxidation reaction of carbon to carbon monoxide may be used to reduce which one of the following oxides at the lowest temperature? a) Al_2O_3 b) Cu_2O c) MgO d) ZnO
9	Which of the following 0.1 M aqueous solution will have lowest freezing point? a) Potassium Sulphate b) Sodium chloride c) Urea d) Glucose
10	An azeotropic solution of two liquids has boiling point lower than either of them when it, a) shows negative deviation from Raoult's Law b) shows no deviation from Raoult's Law c) shows positive deviation from Raoult's Law

	d) is saturated
11	The common name of the compound $C_6H_5O(CH_2)_3-CH_3$, is _____
12	Dettol, which is used as a common antiseptic is a mixture of _____ and _____
13	The chlorofluorocarbon compounds of methane and ethane are collectively known as _____
14	During the electrolysis of aqueous sodium chloride, oxidation of chloride ion is preferred at anode due to _____
15	The quantity of charge required to obtain 0.5 mole of aluminium from Al_2O_3 is _____
16	What is the name of arsenic containing medicine used for treatment of syphilis?
17	Draw the structure of 1-Bromo -4-sec-butyl-2-methyl benzene.
18	Name the artificial sweetener which is stable under cold conditions only .
19	18 gm glucose is dissolved in 90 gm of water. What is the relative lowering of vapour pressure ?
20	What is the composition of copper matte?
SECTION-B	
21	Illustrate the electrochemical theory of rusting of iron. OR What type of battery is lead storage battery? Write the anode and cathode reactions and the overall reaction occurring in the operation of a lead storage battery.
22	a) State Zaitsev rule b) Give a chemical test to distinguish between benzyl chloride and p-chlorotoluene
23	Give reason: a) During the preparation of iodoalkane using KI, H_2SO_4 acid is not used. b) S_N1 reactions are accompanied by racemisation in optically active halides. OR Write the structure of the product a) When chlorobenzene is treated with chloromethane in presence of sodium metal and dry ether By dehydrohalogenation of 1-Bromo- 1-methylcyclohexane with alcoholic KOH.
24	a) What is the role of Silica in the extraction of copper? What is the principle of electrolytic refining.
25	Give IUPAC names of the following compounds. a) $\begin{array}{ccccccc} & & & CH_2OH & & & \\ & & & & & & \\ CH_3 - CH_2 - CH - & CH - & CH - & CH_3 & & & \\ & & & & & & \\ & CH_2Cl & & & & & \end{array}$ b) 
26	a) State Henry's law b) Define the term reverse osmosis

27	<p>a) What are thermoplastics? Give an example</p> <p>b) Write the name of two biodegradable polymers</p>
	SECTION-C
28	<p>Write the structures of the monomers used for getting the following polymers</p> <p>a) Dacron</p> <p>b) Melamine – formaldehyde polymer</p> <p>c) Teflon</p> <p style="text-align: center;">OR</p> <p>a) What is the role of tert-butyl peroxide in the polymerization of ethane?</p> <p>b) Which factor provides crystalline nature to a polymer like nylon?</p> <p>c) Arrange the following polymers in the increasing order of their intermolecular forces.</p> <p style="text-align: center;">Polystyrene, , Buna –S, nylon 6</p>
29	<p>Write the name and principle of the method used for refining of</p> <p>a) Germanium b) Nickel c) Tin</p> <p style="text-align: center;">OR</p> <p>Explain using suitable examples.</p> <p>a) Froth floatation process</p> <p>b) Coupled reactions</p> <p>c) Hydrometallurgy</p>
30	Explain the mechanism of dehydration of ethanol to ethene
31	<p>Assuming complete ionization, calculate the expected freezing point of solution prepared by dissolving 7 g of Glauber's salt, $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$ in 100 g of water.</p> <p>(K_f for water = $1.86 \text{ K kg mol}^{-1}$, RAM of Na = 23, S = 32, O = 16, H = 1 u)</p>
32	<p>From the following compounds given: Identify.</p> <p>2-Bromopentane, 2-Bromo-2-methylbutane, 1-Bromopentane</p> <p>a) the compound which is most reactive towards $\text{S}_{\text{N}}2$ reaction.</p> <p>b) the compound which is optically active.</p> <p>c) the compound which is most reactive towards β-elimination reaction</p>
33	<p>a) Name two chemicals used as food preservatives</p> <p>b) How do antiseptics differ from disinfectants?</p> <p>c) Why antacids and anti allergic drugs do not interfere with the function of each other?</p> <p style="text-align: center;">OR</p> <p>Mention any one use of each of the following</p> <p>a) Ranitidine</p>

	<p>b) Tincture of Iodine</p> <p>c) Anionic detergents</p>
34	<p>A galvanic cell consists of a metallic zinc plate immersed in 0.1M $Zn(NO_3)_2$ solution and metallic plate of lead in 0.02M $Pb(NO_3)_2$ solution. Calculate the emf of the cell. Write the chemical equation for the electrode reactions and represent the cell.</p> <p>(Given: $E^0_{Zn^{2+}/Zn} = -0.76 V$, $E^0_{Pb^{2+}/Pb} = -0.13V$).</p>
SECTION-D	
35	<p>a) What happens when phenol is treated with</p> <p>(i) Chromic acid</p> <p>(ii) Zinc dust</p> <p>b) Write equations for the following</p> <p>(i) Reimer- Tiemann reaction</p> <p>(ii) Hydroboration-Oxidation</p> <p>(iii) Williamsons synthesis</p> <p style="text-align: center;">OR</p> <p>a) Convert</p> <p>(i) Phenol to aspirin</p> <p>(ii) Ethanol to propan-2-ol</p> <p>b) Name the reagents used in the following reactions</p> <p>(i) Bromination of phenol to 2,4,6 –tribromophenol</p> <p>(ii) Oxidation of primary alcohol to carboxylic acid</p> <p>c) Arrange the following in the increasing order of their acid strength</p> <p>P-Cresol, P-Nitrophenol, Phenol, Ethanol</p>
36	<p>a) State Faraday's first law of electrolysis</p> <p>b) Name two metals which can be used for the cathodic protection of iron.</p> <p>c) Conductivity of $2.5 \times 10^{-4} M$ methanoic acid is $5.25 \times 10^{-4} Scm^{-1}$. Calculate its molar conductivity and degree of dissociation.</p> <p>Given $\lambda^0_{(H^+)} = 349.5 Scm^2 mol^{-1}$ $\lambda^0_{(HCOO^-)} = 50.5 Scm^2 mol^{-1}$</p> <p style="text-align: center;">OR</p> <p>a) State Kohlrausch's law of independent migration of ions.</p> <p>b) Give one difference between electrochemical cell and electrolytic cell</p> <p>c) The resistance of 0.01 M NaCl solution at 25° C is 200 ohm. The cell constant of the Conductivity cell used is unity. Calculate the molar conductivity of the solution .</p>
37	<p>a) Define the following</p>

(i) Ebullioscopic constant

(ii) Mole fraction

- b) The depression in the freezing point of a 0.5 mol L^{-1} solution of fluoroacetic acid (CH_2FCOOH ; RMM: 78u) was experimentally observed as 1°C but the calculated value was 0.93°C . Calculate the van't Hoff factor and degree of dissociation of fluoroacetic acid.

OR

- a) Write any two applications of Henry's law.
- b) What happens when blood cells are placed in 0.5% NaCl solution ?
- c) A solution containing 15 g urea (molar mass = 60 g mol^{-1}) per litre of solution in water has the same osmotic pressure (isotonic) as a solution of glucose (molar mass = 180 g mol^{-1}) in water. Calculate the mass of glucose present in one litre of its solution

End of the Question Paper