

# Important snaps by Team PIS Class- XIIth

SUBJECT:CHEMISTRY

CHAPTER:1 TO 16

TEACHER:

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# Highlights from chapter 1

Question 1.

Which point defect in crystals does not alter the density of the relevant solid? (Delhi) 2009

Answer:

Frenkel defect.

Question 2.

Which point defect in its crystal units alters the density of a solid? (Delhi) 2009

Answer:

Schottky defect.

Question 3.

Which point defect in its crystal units increases the density of a solid? (Delhi) 2009

Answer:

Metal excess defect increases the density of a solid. It is due to presence of extra cations in the interstitial sites.

Question 4.

How do metallic and ionic substances differ in conducting electricity? (All India) 2009

Answer:

The electrical conductivity in metallic substances is due to free electrons while in ionic substances the conductivity is due to presence of ions.

# Chapter 1

- ❑ Question 5.
- ❑ Which point defect of its crystals decreases the density of a solid? (Delhi & All India) 2009
- ❑ Answer:
- ❑ Schottky defect.

# CHAPTER 2

- Question 1.
- Differentiate between molarity and molality of a solution. (All India 2010)
- Answer:
- The distinction between molarity and molality.
- Molarity: It is the number of moles of solute dissolved in 1 litre of solution. It is temperature dependent.
- $M = \frac{w \times 1000}{\text{mol mass} \times V}$
- Molality: It is the number of moles of solute dissolved in 1 kg of the solvent.
- $m = \frac{w \times 1000}{M_2 \times W}$
- The relationship between molarity and molality is
- $m = \frac{M}{d - M M_2 / 1000}$
- When molality = molarity, we get,
- $1 = \frac{1}{d - M M_2 / 1000}$  or  $d - M M_2 / 1000 = 1$
- $\therefore d = 1 + M M_2 / 1000$
- Molarity is temperature dependent while molality is not.
- For very dilute solution, the factor  $M M_2 / 1000$  can be neglected in comparison to 1.
- Hence molality will be same to molarity when density = 1.
- Molality is independent of temperature, whereas molarity is a function of temperature because volume depends on temperature and mass does not.
- Question 2.
- What type of semiconductor is obtained when silicon is doped with arsenic? (Delhi 2010)
- Answer:
- n-type semiconductor.
- Question 3.
- What is meant by 'reverse osmosis'? (All India 2011)
- Answer:
- If a pressure higher than the osmotic pressure is applied on the solution, the solvent will flow from the solution into the pure solvent through semipermeable membrane. This process is called reverse osmosis (R.O.).
- Question 4.
- What are isotonic solutions? (Delhi 2014)
- Answer:
- An isotonic solution is a kind of solution with the same salt concentration as blood and cells. Those solutions which are exerting same osmotic pressure under similar conditions (For example 0.9% NaCl solution by mass volume is isotonic with human blood).
- Question 5.
- Some liquids on mixing form 'azeotropes'. What are 'azeotropes'? (Delhi 2014)
- Answer:
- The liquid mixture having a definite composition and boiling like a pure liquid without change in composition is called as azeotrope.

# CHAPTER 3

- ❏ Question 1.
- ❏ What is meant by 'limiting molar conductivity'? (All India 2010)
- ❏ Answer:
  - ❏ The molar conductivity of a solution at infinite dilution is called limiting molar conductivity and is represented by the symbol  $\Lambda_m^\infty$ .
- ❏ Question 2.
- ❏ Express the relation between conductivity and molar conductivity of a solution held in a cell. (Delhi 2011)
- ❏ Answer:
  - ❏  $\Lambda_m = \kappa C \times$  Conductivity  $\times$  Concentration
- ❏ Question 3.
- ❏ What is the effect of catalyst on:
  - ❏ (i) Gibbs energy ( $\Delta G$ ) and
  - ❏ (ii) activation energy of a reaction? (Delhi 2017)
- ❏ Answer:
  - ❏ (i) There will be no effect of catalyst on Gibbs energy.
  - ❏ (ii) The catalyst provides an alternative pathway by decreasing the activation energy of a reaction.
- ❏ Question 4.
- ❏ What is the effect of adding a catalyst on
  - ❏ (a) Activation energy ( $E_a$ ), and
  - ❏ (b) Gibbs energy ( $\Delta G$ ) of a reaction? (All India 2017)
- ❏ Answer:
  - ❏ (a) On adding catalyst in a reaction, the activation energy reduces and rate of reaction is fastened.
  - ❏ (b) A catalyst does not alter Gibbs energy ( $\Delta G$ ) of a reaction.
- ❏ Electrochemistry Class 12 Important Questions Short Answer Type - I [SA - I]
- ❏ Question 5.
- ❏ Two half cell reactions of an electrochemical cell are given below :
  - ❏  $\text{MnO}^- 4(\text{aq}) + 8\text{H}^+(\text{aq}) + 5\text{e}^- \rightarrow \text{Mn}^{2+}(\text{aq}) + 4\text{H}_2\text{O}(\text{l})$ ,  $E^\circ = +1.51 \text{ V}$
  - ❏  $\text{Sr}^{2+}(\text{aq}) \rightarrow 4\text{Sr}^{4+}(\text{aq}) + 2\text{e}^-$ ,  $E^\circ = +0.15 \text{ V}$
- ❏ Construct the redox equation from the two half cell reactions and predict if this reaction favours formation of reactants or product shown in the equation. (All India 2009)
- ❏ Answer:
  - ❏ The reactions can be represented at anode and at cathode in the following ways :
- ❏ At anode (oxidation) :
  - ❏  $\text{Sr}^{2+} \rightarrow 4\text{Sr}^{4+}(\text{aq}) + 2\text{e}^- \quad ] \times 5 \quad E^\circ = +0.15 \text{ V}$
- ❏ At cathode (reduction) :
  - ❏  $\text{MnO}^- 4(\text{aq}) + 8\text{H}^+(\text{aq}) + 5\text{e}^- \rightarrow \text{Mn}^{2+}(\text{aq}) + 4\text{H}_2\text{O}(\text{l}) \quad ] \times 2 \quad E^\circ = +1.51 \text{ V}$
- ❏ The Net  $\text{R} \times \text{M} = 2\text{MnO}^- 4(\text{aq}) + 16\text{H}^+ + 5\text{Sr}^{2+} \rightarrow 2\text{Mn}^{2+} + 5\text{Sr}^{4+} + 8\text{H}_2\text{O}$
- ❏ Now  $E^\circ_{\text{cell}} = E^\circ_{\text{cathode}} - E^\circ_{\text{anode}}$ 
  - ❏  $= 1.51 - 0.15 = +1.36 \text{ V}$
- ❏  $\therefore$  Positive value of  $E^\circ_{\text{cell}}$  favours formation of product.

# CHAPTER 4

❏ Question 1.

❏ Define 'rate of a reaction'. (Delhi 2010)

❏ Answer:

❏ Rate of a reaction: Either, The change in the concentration of any one of the reactants or products per unit time is called rate of a reaction. Or, The rate of a chemical reaction is the change in the molar concentration of the species taking part in a reaction per unit time.

❏ Question 2.

❏ Define 'order of a reaction'. (All India 2011)

❏ Answer:

❏ The sum of powers of the concentration of the reactants in the rate law expression is called the order of reaction.

❏ Question 3.

❏ Define 'activation energy' of a reaction. (All India 2011)

❏ Answer:

❏ The minimum extra amount of energy absorbed by the reactant molecules to form the activated complex is called activation energy.

❏ The activation energy of the reaction decreases by the use of catalyst.

❏ Question 4.

❏ Express the rate of the following reaction in terms of the formation of ammonia :

❏  $\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \rightarrow 2\text{NH}_3(\text{g})$  (Comptt. All India 2013)

❏ Answer:

❏ Important Questions for Class 12 Chemistry Chapter 4 Chemical Kinetics Class 12 Important Questions 1

❏ Question 5.

❏ If the rate constant of a reaction is  $k = 3 \times 10^{-4} \text{ s}^{-1}$ , then identify the order of the reaction. (Comptt. All India 2013)

❏ Answer:

❏  $\text{s}^{-1}$  is the unit for rate constant of first order reaction.

# CHAPTER 5

❏ Question 1.

❏ Define the term 'Tyndall effect'. (Delhi 2009)

❏ Answer:

❏ Tyndall effect : When a beam of light is passed through a colloidal solution and viewed perpendicular to the path of the incident light, the path of light becomes visible as a bright streak. The illuminated path is called Tyndall cone and the phenomenon is called Tyndall effect.

❏ Question 2.

❏ What is the 'coagulation' process? (All India 2009)

❏ Answer:

❏ The process of settling of colloidal particles is called coagulation or precipitation of the solution.

❏ Question 3.

❏ What is an emulsion? (Delhi 2010)

❏ Answer:

❏ Emulsion is liquid-liquid colloidal system.

❏ Question 4.

❏ Give an example of 'shape-selective catalyst'. (Delhi 2010)

❏ Answer:

❏ The catalyst reaction in which small sized molecules are absorbed in the pores and cavities of selective adsorbents like zeolites is known as shape-selective catalysis.

❏ Question 5.

❏ Define 'electrophoresis'. (Delhi 2011)

❏ Answer:

❏ Electrophoresis : When electric current is passed through a colloidal solution, the positively charged particles move towards cathode while negatively charged particles move towards anode where they lose their charge and get coagulated. The phenomenon is known as Electrophoresis.

# CHAPTER 6

- ❏ Question 1.
- ❏ Why is the froth flotation method selected for the concentration of sulphide ores? (Delhi 2009)
- ❏ Answer:
  - ❏ Because the method is based on preferential wetting properties with the frothing agent and water, and the sulphide particles of ore stick to the oil droplets and rise in the form of froth.
- ❏ Question 2.
- ❏ What is meant by the term 'pyrometallurgy'? (All India 2009)
- ❏ Answer:
  - ❏ The process of extraction of metal by heating the metal oxide with a suitable reducing agent is called pyrometallurgy.
- ❏ Question 3.
- ❏ Differentiate between a mineral and an ore. (All India 2011)
- ❏ Answer:
  - ❏ Mineral: The naturally occurring chemical substances in form of which the metals occur in the earth along with impurities are called minerals.
  - ❏ Ore: The mineral from which metal can be extracted conveniently and economically is called an ore.
  - ❏ Thus, all ores are minerals but all minerals are not ores.
- ❏ Question 4.
- ❏ What type of ores can be concentrated by magnetic separation method? (All India 2011)
- ❏ Answer:
  - ❏ Magnetic separation method is used when either the ore or the impurities associated with it are magnetic in nature.
  - ❏ Example: Chromite ( $\text{FeO} \cdot \text{Cr}_2\text{O}_3$ ) - A ore of chromium
  - ❏ Magnetite ( $\text{Fe}_3\text{O}_4$ ) → an ore of iron.
- ❏ Question 5.
- ❏ Why is it that only sulphide ores are concentrated by 'froth floatation process'? (All India 2011)
- ❏ Answer:
  - ❏ As sulphide ores are wetted with pine oil and their particles come up along with froth, while their gangue (impurities) particles are wetted with water so such particles settle down.



# CHAPTER 7

❏ Question 1.

❏ Why is Bi(v) a stronger oxidant than Sb(v)? (Delhi 2009)

❏ Answer:

❏ The stability of +5 oxidation state decreases and that of +3 state increases due to inert pair effect down the group therefore Bi(v) accepts two electrons and gets reduced to Bi (v).

❏  $\text{Bi}^{5+} + 2\text{e}^- \rightarrow \text{Bi}^{3+}$

❏ Question 2.

❏ Which is a stronger oxidizing agent Bi(v) or Sb(v)? (Delhi 2009)

❏ Answer:

❏ Bi(v) is stronger oxidizing agent due to inert pair effect.

❏ Question 3.

❏ Why is red phosphorus less reactive than white phosphorus? (All India 2009)

❏ Answer:

❏ Because white phosphorus has angular strain in its P<sub>4</sub> molecules where the angle is only 60°.

❏ Question 4.

❏ Why does NO<sub>2</sub> dimerise? (Delhi 2010)

❏ Answer:

❏ NO<sub>2</sub> contains  $7 + 2 \times 8$  i.e. 23 odd electrons. In the valence shell N has seven electrons and hence less stable. To acquire stability it dimerizes to form N<sub>2</sub>O<sub>4</sub>

❏ Important Questions for Class 12 Chemistry Chapter 7 The p-Block Elements Class 12 Important Questions 1

❏ Question 5.

❏ What is the oxidation number of phosphorus in H<sub>3</sub>PO<sub>2</sub> molecule? (Delhi 2010)

❏ Answer:

❏ H<sub>3</sub>PO<sub>2</sub>

❏  $3 + x - 4 = 0$  or  $x - 1 = 0 \therefore x = +1$

# CHAPTER 8

❏ Question 1.

❏ What is meant by 'lanthanoid contraction'? (Delhi 2011)

❏ Answer:

❏ The steady decrease in the ionic radius from  $\text{La}^{3+}$  to  $\text{Lu}^{3+}$  is termed as lanthanoid contraction.

❏ Question 2.

❏ Why do transition elements show variable oxidation states? (Comptt. Delhi 2014)

❏ Answer:

❏ The variability of oxidation state of transition elements is due to incompletely filled d-orbitals and presence of unpaired electrons, i.e. (ns) and (n-1) d electrons have approximate equal energies.

❏ Question 3.

❏ Write the formula of an oxo-anion of Manganese (Mn) in which it shows the oxidation state equal to its group number. (Delhi 2017)

❏ Answer:

❏ Permanganate ion, i.e.,  $\text{MnO}_4^-$  with oxidation number +7.

❏ Question 4.

❏ What happens when  $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$  is heated? (Delhi 2017)

❏ Answer:

❏ Important Questions for Class 12 Chemistry Chapter 8 The d- and f-Block Elements Class 12 Important Questions 1

❏ Question 5.

❏ Write the formula of an oxo-anion of Chromium (Cr) in which it shows the oxidation state equal to its group number. (Delhi 2017)

❏ Answer:

❏  $\text{Cr}_2\text{O}_7^{2-}$  (dichromate ion) in which oxidation state of Cr is +6 which equal to its group number 6.

# CHAPTER 9

❏ Question 1.

❏ Give an example of linkage isomerism. (Delhi) 2010

❏ Answer:

❏ Linkage isomerism : When more than one atom in an ambidentate ligand is linked with central metal ion to form two types of complexes, then the formed isomers are called linkage isomers and the phenomenon is called linkage isomerism.

❏  $[\text{Cr}(\text{H}_2\text{O})_5(\text{NCS})]^{2+}$  Pentaquathiocyanate chromium (III) ion

❏  $[\text{Cr}(\text{H}_2\text{O})_5(\text{NCS})]^{2+}$

❏ Pentaquaisothiocyanate chromium (III) ion

❏ Question 2.

❏ Give an example of coordination isomerism. (Delhi 2010)

❏ Answer:

❏ Example :  $[\text{Co}(\text{NH}_3)_6] [\text{Cr}(\text{CN})_6]$  and

❏  $[\text{Cr}(\text{NH}_3)_6] [\text{Co}(\text{CN})_6]$

❏ Question 3.

❏ Give an example of ionization isomerism. (Delhi 2010)

❏ Answer:

❏ Example :  $[\text{Pt}(\text{NH}_3)_5(\text{Br})_3] \text{SO}_4$  and

❏  $[\text{Co}(\text{NH}_3)_5(\text{SO}_4)] \text{Br}$

❏ Question 4.

❏ Give IUPAC name of ionization isomer of  $[\text{Ni}(\text{NH}_3)_3\text{NO}_3]\text{Cl}$ . (Comptt. All India 2012)

❏ Answer:

❏ IUPAC name : Triammine nitrato nickel (III) chloride

❏ Question 5.

❏ Write down the formula of : Tetraamineaquachloridocobalt(III) chloride. (Comptt. All India 2012)

❏ Answer:

❏  $[\text{Co}(\text{NH}_3)_4(\text{H}_2\text{O})\text{Cl}]\text{Cl}_2$

# CHAPTER 10

❏ Haloalkanes and Haloarenes Class 12 Important Questions Very Short Answer Type

❏ Question 1.

❏ A solution of KOH hydrolyses  $\text{CH}_3\text{CHClCH}_2\text{CH}_3$  and  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl}$ . Which one of these is more easily hydrolysed? (Delhi 2010)

❏ Answer:

❏ In aq. KOH  $\text{S}_\text{N}1$  mechanism takes place and the formed carbocation is stabilized. Thus  $2^\circ$  carbocation is more stable carbocation than  $1^\circ$  therefore

❏ Important Questions for Class 12 Chemistry Chapter 10 Haloalkanes and Haloarenes Class 12 Important Questions 1

❏ hydrolyses faster than  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl}$ .

❏ Question 2.

❏ Give the IUPAC name of the following compound : (All India 2010)

❏ Important Questions for Class 12 Chemistry Chapter 10 Haloalkanes and Haloarenes Class 12 Important Questions 2

❏ Answer:

❏ Important Questions for Class 12 Chemistry Chapter 10 Haloalkanes and Haloarenes Class 12 Important Questions 3

❏ Question 3.

❏ Write the IUPAC name of the following compound :  $(\text{CH}_3)_3\text{CCH}_2\text{Br}$  (Delhi 2010)

❏ Answer:

❏ Important Questions for Class 12 Chemistry Chapter 10 Haloalkanes and Haloarenes Class 12 Important Questions 4

❏ IUPAC name : 1-bromo-2, 2-dimethyl propane

❏ Question 4.

❏ Write the IUPAC name of the following compound :  $\text{CH}_2 = \text{CHCH}_2\text{Br}$  (All India 2010)

❏ Answer:

❏ Important Questions for Class 12 Chemistry Chapter 10 Haloalkanes and Haloarenes Class 12 Important Questions 5

❏ IUPAC name : I-Bromo-prop-2-ene

# CHAPTER 10

- ✖ Write the IUPAC name of the following compound : (All India 2010)
- ✖ Important Questions for Class 12 Chemistry Chapter 10 Haloalkanes and Haloarenes Class 12 Important Questions 6
- ✖ Answer:
- ✖ IUPAC name : 1 -Bromo-2-methylprop-2-ene.
- ✖
- ✖ Question 6.
- ✖ Give the IUPAC name of the following compound. (Delhi 2012)
- ✖ Important Questions for Class 12 Chemistry Chapter 10 Haloalkanes and Haloarenes Class 12 Important Questions 7
- ✖ Answer:
- ✖ IUPAC name : 3-bromo-2-methyl propene

# CHATER 11

- ❏ Question 1.
- ❏ Give the IUPAC name of the following compound : (Delhi 2009)
- ❏ Important Questions for Class 12 Chemistry Chapter 11 Alcohols, Phenols and Ethers Class 12 Important Questions 1
- ❏ Answer:
- ❏ Important Questions for Class 12 Chemistry Chapter 11 Alcohols, Phenols and Ethers Class 12 Important Questions 2
- ❏ IUPAC name : 2-Bromo-3-methyl-but-2-ene-1-ol
- ❏ Question 2.
- ❏ Give the IUPAC name of the following (All India 2009)
- ❏ Important Questions for Class 12 Chemistry Chapter 11 Alcohols, Phenols and Ethers Class 12 Important Questions 3
- ❏ Answer:
- ❏ Important Questions for Class 12 Chemistry Chapter 11 Alcohols, Phenols and Ethers Class 12 Important Questions 4
- ❏ Question 3.
- ❏ Write the structure of the molecule of a compound whose IUPAC name is 1-phenylpropan-2-ol. (All India 2010)
- ❏ Answer:
- ❏ 1-phenylpropan-2-ol
- ❏ Important Questions for Class 12 Chemistry Chapter 11 Alcohols, Phenols and Ethers Class 12 Important Questions 5
- ❏ Question 4.
- ❏ How would you convert ethanol to ethene? (All India 2011)
- ❏ Answer:
- ❏
- ❏ Question 5.
- ❏ Draw the structure of 2, 6-Dimethylphenol. (All India 2011)
- ❏ Answer:

# CHAPTER 12

❏ Question 1.

❏ Write the structure of 3-oxopentanal. (Delhi 2009)

❏ Answer:

❏ Important Questions for Class 12 Chemistry Chapter 12 Aldehydes, Ketones and Carboxylic Acids Class 12 Important Questions 1

❏ Question 2.

❏ Write the structural formula of 1-phenylpentan- 1-one. (All India 2009)

❏ Answer:

❏ 1-Phenylpentan-1-one

❏ Important Questions for Class 12 Chemistry Chapter 12 Aldehydes, Ketones and Carboxylic Acids Class 12 Important Questions 2

❏ Question 3.

❏ Draw the structural formula of 1-phenyl propan- 1-one molecule. (Delhi 2010)

❏ Answer:

❏ 1-phenyl propan-1-one

❏ Important Questions for Class 12 Chemistry Chapter 12 Aldehydes, Ketones and Carboxylic Acids Class 12 Important Questions 3

❏ Question 4.

❏ What is Tollen's reagent? Write one usefulness of this reagent. (All India 2010)

❏ Answer:

❏ Ammonical silver nitrate solution is called Tollen's reagent.

❏ Uses: It is used to test aldehydes. Both aliphatic and aromatic aldehydes reduce Tollen's reagent to shining silver mirror. It is also used to distinguish aldehydes from ketones.

❏ Important Questions for Class 12 Chemistry Chapter 12 Aldehydes, Ketones and Carboxylic Acids Class 12 Important Questions 4

❏

❏ Question 5.

❏ Draw the structure of 3-methylbutanal. (Delhi 2011)

❏ Answer:

❏ Important Questions for Class 12 Chemistry Chapter 12 Aldehydes, Ketones and Carboxylic Acids Class 12 Important Questions 5

# CHAPTER 13

- ❏ Question 1.
- ❏ Why is an alkylamine more basic than ammonia? (Delhi 2009)
- ❏ Answer:
- ❏ Due to electron releasing inductive effect (+I) of alkyl group, the electron density on the nitrogen atom increases and thus, it can donate the lone pair of electrons more easily than ammonia.
- ❏ Question 2.
- ❏ Arrange the following compounds in an increasing order of basic strengths in their aqueous solutions :  $\text{NH}_3$ ,  $\text{CH}_3\text{NH}_2$ ,  $(\text{CH}_3)_2\text{NH}$ ,  $(\text{CH}_3)_3\text{N}$  (All India 2009)
- ❏ Answer:
- ❏ Basicity order (due to stability of ammonium cation)
- ❏  $(\text{CH}_3)_3\text{N} > (\text{CH}_3)_2\text{NH} > \text{CH}_3\text{NH}_2 > \text{NH}_3$
- ❏ Question 3.
- ❏ Give the IUPAC name of  $\text{H}_2\text{N}-\text{CH}_2-\text{CH}_2-\text{CH}=\text{CH}_2$ . (Delhi 2010)
- ❏ Answer:
- ❏ IUPAC name : But-3-ene-1-amine
- ❏ Question 4.
- ❏ Arrange the following compounds in an increasing order of their solubility in water :  $\text{C}_6\text{H}_5\text{NH}_2$ ,  $(\text{C}_2\text{H}_5)_2\text{NH}$ ,  $\text{C}_2\text{H}_5\text{NH}_2$  (Delhi & All India 2011)
- ❏ Answer:
- ❏  $\text{C}_6\text{H}_5\text{NH}_2 < (\text{C}_2\text{H}_5)_2\text{NH} < \text{C}_2\text{H}_5\text{NH}_2$
- ❏ Question 5.
- ❏ Give a chemical test to distinguish between ethylamine and aniline. (All India 2011)
- ❏ Answer:
- ❏ Ethylamine and aniline :
- ❏ By Azo dye test: It involves the reaction of any aromatic primary amine with  $\text{HNO}_2$  ( $\text{NaNO}_2 + \text{dil. HCl}$ ) at 273-278 K followed by treatment with an alkaline solution of 2-naphthol when a brilliant yellow, orange or red coloured dye is obtained



# CHAPTER 14

- ❏ Question 1.
- ❏ What is meant by 'reducing sugars'? (All India 2010)
- ❏ Answer:
- ❏ Reducing sugar contains aldehydic or ketonic group in the hemiacetal and hemiketal forms and can reduce Tollen's reagent or Fehling's solution.
- ❏ Question 2.
- ❏ What are monosaccharides? (All India 2010)
- ❏ Answer:
- ❏ These are the simplest carbohydrates which cannot be hydrolysed to smaller molecules. Their general formula is  $(CH_2O)_n$  where  $n = 3 - 7$
- ❏ Example : glucose, fructose etc.
- ❏ Question 3.
- ❏ Write the structure of the product obtained when glucose is oxidised with nitric acid. (All India 2012)
- ❏ Answer:
- ❏ Important Questions for Class 12 Chemistry Chapter 14 Biomolecules Class 12 Important Questions 1
- ❏ Question 4.
- ❏ Write a reaction which shows that all the carbon atoms in glucose are linked in a straight chain. (All India 2012)
- ❏ Answer:
- ❏ On prolonged heating with HI, it forms n-hexane, shows that all the six carbon atoms are linked in a straight chain :
- ❏ Important Questions for Class 12 Chemistry Chapter 14 Biomolecules Class 12 Important Questions 2
- ❏ Question 5.
- ❏ What are the expected products of hydrolysis of lactose ? (Comptt. Delhi 2012)
- ❏ Answer:
- ❏ On hydrolysis, lactose gives P-D-galactose and p-D-glucose.

# CHAPTER 15

❏ Question 1.

❏ Give an example of elastomers. (Delhi, All India 2009)

❏ Answer:

❏ Buna-S, Buna-N.

❏ Question 2.

❏ What does the part '6, 6' mean in the name nylon-6, 6? (Delhi, All India 2009)

❏ Answer:

❏ Nylon '6,6' implies that it is a condensation polymer of two types of monomer molecules each containing six carbon atoms i.e. adipic acid ( $\text{HOOC}(\text{CH}_2)_4\text{COOH}$ ) and hexamethylenediamine ( $\text{H}_2\text{NCH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$ )

❏ Question 3.

❏ What is the primary structural feature necessary for a molecule to make it useful in a condensation polymerization reaction? (All India 2009)

❏ Answer:

❏ The presence of two bifunctional monomer molecules undergo condensation with the loss of simple molecule of water, alcohol to form dimer.

❏ Question 4.

❏ What does the designation '6, 6' mean in the name nylon-6, 6? (All India 2010)

❏ Answer:

❏ Since both adipic acid and hexamethylenediamine contain six carbon atoms each.

❏ Question 5.

❏ What is meant by 'copolymerisation'? (All India 2010)

❏ Answer:

❏ When two or more different monomers are allowed to polymerize together, the product formed is called a copolymer and the process is called copolymerisation.

# CHAPTER 16

❏ Question 1.

❏ Differentiate between disinfectants and antiseptics. (Delhi 2012)

❏ Answer:

❏ Antiseptics Disinfectants

❏ 1. They are chemical substances which prevent the growth of micro-organisms and may even kill them. 1. They are chemical substances which kill micro-organisms.

❏ 2. They are safe to be applied to the living tissues. 2. They are not safe to be applied to the living tissues.

❏ 3. They are generally applied on wounds, cuts, ulcers and diseased skin surfaces. Example : Furacin, soframycin, dettol and savlon, 0.2% solution of phenol. 3. They are used to kill micro-organisms present in the drains, toilets, floors etc. Example: Phenol (> 1% solution) and chlorine (0.2 to 0.4 ppm).

❏ Question 2.

❏ What are limited spectrum antibiotics? Give one example. (Comptt. Delhi 2012)

❏ Answer:

❏ Those antibiotics which are specific for certain diseases are called limited spectrum antibiotics. Example: Streptomycin for tuberculosis.

❏ Question 3.

❏ Name the important by-products of soap industry. (Comptt. Delhi 2012)

❏ Answer:

❏ Glycerol is the important by-product of soap industry.

❏ Question 4.

❏ Why do we require artificial sweetening agents? (Comptt. All India 2012)

❏ Answer:

❏ To reduce calorie intake and to protect teeth from decaying, we need artificial sweeteners.

❏ Chemistry in Everyday Life Class 12 Important Questions Short Answer Type SA-I

❏ Question 5.

❏ What are food preservatives? Name two such substances. (All India 2012)

❏ Answer:

❏ Food preservatives : Food preservatives are the compounds which prevent spoilage of food due to microbial growth.

❏ Two substances : Example : Sodium benzoate, vinegar.