

## Chemistry

**Note:** Time allowed for Section-B and Section-C is 2 Hours and 45 minutes.

## SECTION-B

**Q2:** Answer any EIGHT parts. Each part carries FOUR marks.

- Compare the Macroscopic characteristics of Forward Reaction and Reverse Reaction with reference to their mode of reaction.
- Calculate the pH and pOH of 0.079 M of HCl solution?
- Classify the given as saturated and unsaturated hydrocarbons,  $\text{CH}_4$ ,  $\text{C}_5\text{H}_{12}$ ,  $\text{C}_3\text{H}_6$  and  $\text{C}_4\text{H}_6$
- Convert Octane and Nonane to their alkyl group. Also write the name of alkyl groups formed.
- How pentene is prepared from pentyl alcohols. Write complete reaction.
- Write down the chemical equations for the addition of HBr and HI to  $\text{C}_2\text{H}_4$ .
- How protein polymer is formed from amino acids. Give example.
- Complete the table below,

Vitamin	Source	Deficiency Symptom
i. Vitamin-D		
ii. Ascorbic Acid		

- How acid rain affects on plants and trees?
- Mention values of the following physical properties of water.
  - Latent heat of fusion
  - Latent heat of vaporization
  - Heat capacity
  - Density
- What do you know about enrichment of ore? Why it is necessary in metallurgical operations?

## SECTION-C Marks: 16

**Note:** Attempt any THREE questions. All questions carry equal marks.

- Q3: (a) How equilibrium expression is written for given reaction. Derive its unit also.  $\text{I}_2 + 5\text{F}_2 \rightleftharpoons 2\text{IF}_5$
- (b) What are the dissociation products of  $\text{Mg}(\text{OH})_2$ ? Also categorize it as Arrhenius acid or base.
- Q4: (a) Explain two types of closed chain or cyclic organic compounds with examples.
- (b) Write two steps involved in dehydrogenation of adjacent di-halides to prepare alkynes with conditions.
- Q5: (a) How oils and fats are produced from fatty acids. Explain with the help of chemical reaction?
- (b) How depletion of Ozone layer affect the marine life and amphibians?
- Q6: (a) Explain Typhoid fever and dysentery as water born disease.
- (b) Which fraction is represented by Carbon atoms ( $\text{C}_{14}$  to  $\text{C}_{25}$ ). Also write at least two uses.