CHEMISTRY SSC–II

Time allowed: 2:40 Hours **Total Marks Sections B and C: 53**

NOTE: Answer any eleven parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet–B if required. Write your answers neatly and legibly.

SECTION – B (Marks 33)

Q. 2 Attempt any ELEVEN parts. The answer to each part should not exceed 3 to 4 lines. **(11 x 3 = 33)**

(i) Define the following: a. Chemical equilibrium b. Equilibrium constant

(ii) a. What is pH? Write its Mathematical form.

b. What is the pH of pure water at $25\ ^{o}C$?

(iii) Differentiate between Normal and Acidic Salts. Give an example of each.

(iv) Classify the following as an aldehyde, a ketone or a carboxylic acid:

a. $CH_3-CO-CH_2-CH_3$

b. $CH_3-CH_2-CH_2-\overset{\overset{O}{\|}}{C}-H$

c. $CH_3-CH_2-\overset{\overset{O}{\|}}{C}-OH$

(v) Write the Condensed formulae of the following:

a. Butane b. Pentane c. Octane

(vi) Complete the following reactions:

a. $CH_3-CH_2-CH_2-Br+KOH \xrightarrow{Alcohol}$

b. $CH_3-CH_2-CH_2-OH \xrightarrow[170\ ^{o}C]{Conc.H_2SO_4}$

c. $CH_3-CH=CH_2+KMnO_4+H_2O \longrightarrow$

(vii) Write three uses of carbohydrates.

(viii) What is Peptide Bond? Explain with an example.

(ix) Define Acid Rain. Write names of gases that cause an acid rain.

(x) Define Global warming. Mention some effects of global warming.

(xi) What is coagulation? Write its chemical equation.

(xii) a. Write Raw materials used for the manufacturing of Urea.

b. What is the product obtained when Ammonia reacts with Carbon dioxide?

(xiii) Water is considered as the 'Best Solvent'. Why?

(xiv) Define Law of Mass Action. What do you mean by the term 'Active Mass'?

(xv) Define Fat. Write uses of Lipids.

SECTION – C (Marks 20)

Note: Attempt any TWO questions. All questions carry equal marks. **(2 x 10 = 20)**

Q. 3 a. Define Lewis concept of acids and bases. Explain each with the help of an example. Name the bond formed in Lewis acid-base reaction. **(05)**

b. Explain self-ionization of water with the help of chemical equation. **(03)**

c. Write names of any two acid-base indicators. **(02)**

Q. 4 a. What are Vitamins? Describe the different types of vitamins. **(05)**

b. How are Alkynes prepared from: (i) Vicinal dihalides (ii) Tetra halides **(04)**

c. Write the chemical formula of Ethyl amine. **(01)**

Q. 5 a. What is ozone layer? How does ozone layer depletion occur? **(06)**

b. Draw flow sheet diagram for manufacturing of Urea. **(04)**