

ESKPX-XXVI (I)
SSC-(P-II)
CHEMISTRY – 10th

Time: 2 Hours 45 Minutes

SECTION "B"

Marks: 32

Note: Attempt any EIGHT (08) questions. All questions carry equal marks.

- Q.1.** State any four factors that must remain constant for equilibrium to exist. 1+1+1+1
- Q.2.** Identify the following in the reaction: 1+1+1+1
 $CH_3COOH + H_2O \rightleftharpoons CH_3COO^- + H_3O^+$ according to Bronsted-Lowry theory:
a) Acid
b) Base
c) Proton doner
d) Proton acceptor
- Q.3.** Compare the chemical reactivity and general formula of saturated and unsaturated hydrocarbons. 2+2
- Q.4.** Differentiate between a carbonyl compounds and carboxylic acid with respect to their functional groups and general formulas. 2+2
- Q.5.** Write balance chemical equation for the preparation of propene from 2-bromopropane. Write name of the reaction and conditions required. 2+1+0.5+0.5
- Q.6.** How are sucrose and lactose different in terms of: 2+2
a) nature of monosaccharides
b) hydrolysis behavior
- Q.7.** Write the names of eight vitamins which comprise vitamin-B complex. 0.5 X 8=4
- Q.8.** Differentiate between primary and secondary pollutants with two examples each. 2+2
- Q.9.** Write the physical properties of pure water in terms of: 1+1+1+1
a) Freezing point
b) Boiling point
c) Latent heat of fusion
d) Latent heat of vaporization
- Q.10.** Write names of any two fractions of petroleum with one use each. 1+1+1+1
- Q.11.** Describe the organic origin theory of the formation of petroleum in four points. 1+1+1+1

SECTION "C"

Marks: 21

Note: Attempt any THREE (03) questions. All questions carry equal marks.

- Q.12.** a) Write the following four formulae of hexane: 1+1+1+1
a). Molecular b). Condensed c). Structural d). Dot-cross
b) Write the equilibrium constant expression for: 2+1
 $CO_{(g)} + H_2O_{(g)} \rightleftharpoons CO_{2(g)} + H_{2(g)}$ Identify reactants and products in the expression.
- Q.13.** a) What is ozone layer depletion? Explain any three effects of ozone layer depletion. 1+1+1+1
b) Define Lewis acid and base. Identify the Lewis acid and base in the reaction: 1+1+1
 $BF_3 + NH_3 \rightarrow BF_3 \cdot NH_3$
- Q.14.** a) Give any two uses of water in each of the following: 2+2
(i). Industries (ii). Irrigation
b) Write a chemical equation showing the formation of ethyne from 1,2-dichloroethane by dehalogenation. 1+1+1
- Q.15.** a) Show with balanced equations how are carbon dioxide and slaked lime prepared in a limekiln. Explain their use in Solvay's process. 1+1+2
b) What are fats? Differentiate between fats and oils on the basis of source and physical state. 1+1+1