

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph. SEMESTER-II • EXAMINATION – SUMMER -2023

Subject Code:BP202TP**Date: 07/08/2023****Subject Name: PHARMACEUTICAL ORGANIC CHEMISTRY -I****Time: 02:30pm to 05:30pm****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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| Q.1 | (a) Explain the mechanism and stereochemistry of Diels-Alder reaction? | 06 |
| | (b) Discuss the structural isomerism in organic compound? | 05 |
| | (c) Discuss the factors affecting the SN1 and SN2 reactions? | 05 |
| Q.2 | (a) Describe the electrophilic addition reactions of alkenes? | 06 |
| | (b) Explain the saytzeffs orientation and evidences? | 05 |
| | (c) Write a note on Markonikov's rules? | 05 |
| Q.3 | (a) Discuss the mechanism and stereochemistry of SN1 and SN2 reactions? | 06 |
| | (b) Explain the stability of conjugated dienes? | 05 |
| | (c) Explain the free radical addition reactions of alkenes? | 05 |
| Q.4 | (a) Draw the structure of following compound- | 06 |
| | i) Trichloroethylene iv) Benzyl alcohol | |
| | ii) Cinnamaldehyde v) Methyl salicylate | |
| | iii) Citric acid vi) Chlorobutanol | |
| | (b) Give the qualitative tests of alcohols. Write structure and uses of glycerol and propylene glycol? | 05 |
| | (c) Write the chemical properties of ester? | 05 |
| Q.5 | (a) Discuss the following named reactions along with their mechanisms: | 06 |
| | i) Aldol condensation | |
| | ii) Cannizzaro reaction | |
| | (b) Explain factors affecting the E1 and E2 reactions? | 05 |
| | (c) Write the method of preparation of carboxylic acid from aldehyde and primary alcohols? | 05 |
| Q.6 | (a) Give the structures and uses of Ethanolamine, Ethylenediamine, Amphetamine | 06 |
| | (b) Discuss the importance and mechanism of Perkin reaction? | 05 |
| | (c) Explain the electromeric effect of carbonyl compounds? | 05 |
| Q.7 | (a) Give in details the reasons for the acidity of carboxylic acid and basicity of amines? | 06 |
| | (b) Write the qualitative test for ketones? Give the structure and uses of ketone? | 05 |
| | (c) Write about the stability of alkenes? | 05 |
