

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph.- SEMESTER– II• EXAMINATION – WINTER-2021

Subject Code: BP202TP**Date: 28/02/2022****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.

- Q.1** (a) Describe effect of substituent on basicity of aliphatic amine. Why 2° amine is more basic than 1° and 3° amine in aqueous media? **06**
- (b) Explain in detail about Grignard reaction for the synthesis of Alkanes and Alcohols **05**
- (c) Write a note on Structural isomerism in organic compounds. **05**
- Q.2** (a) Draw structure from following compounds: **06**
- | | |
|-------------------------|-----------------------------------|
| 1) 2,3-dimethyl pentane | 2) 2-bromo-3-chloro-1-pentene |
| 3) Isobutene | 4) Vinyl bromide |
| 5) 3-Phenyl-2-propenal | 6) 4-Hydroxy-4-methyl-2-pentanone |
- (b) Explain Aldol and Crossed aldol condensation **05**
- (c) Write note on Diel-Alder reaction. **05**
- Q.3** (a) Discuss the mechanism and stereochemistry of SN1 and SN2 reaction **06**
- (b) Discuss factors affecting SN1 reactions **05**
- (c) State and explain : saytzeff's rule, antimarcovnikov addition **05**
- Q.4** (a) Differentiate E1 and E2 reactions with suitable examples **06**
- (b) Explain with suitable examples stability of conjugated dienes. **05**
- (c) Write a note on Benzoin condensation & Perkin condensation, **05**
- Q.5** (a) Define hybridization. Explain hybrid orbitals with example. **06**
- (b) Explain classification of organic compounds with example **05**
- (c) Give qualitative tests to differentiate between primary, secondary and tertiary alcohols. **05**
- Q. 6** (a) Give structure and uses of following: 1) Vanilin 2) Acetyl salicylic acid 3) Amphetamine 4) Benzyl alcohol 5) Propylene glycol 6) Chloral hydrate **06**
- (b) Explain with suitable examples effect of substituent's on acidity of carboxylic acids. **05**
- (c) Comment on stability of primary, secondary and tertiary carbocations with suitable structures. **05**
- Q.7** (a) Give the methods for the preparation of carboxylic acid. **06**
- (b) Give general methods for the preparation of Alkenes. **05**
- (c) Explain cannizzaro and cross cannizzaro reaction with mechanism. **05**
