

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph. SEMESTER-II • EXAMINATION – SUMMER -2022

Subject Code:BP202TP**Date: 03/09/2022****Subject Name: Pharmaceutical Organic Chemistry-I****Time: 10:30am to 01:30pm****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) | Give the structural formulae of followings- | 06 |
| | | i) 3-pentanone | |
| | | ii) Dimethyl amine | |
| | | iii) Chlorobutanol | |
| | | iv) Salicylic acid | |
| | | v) Tetrachloromethane | |
| | | vi) Isopropyl alcohol | |
| | (b) | Give Structure and uses of cetosteryl alcohol and methyl salicylate. | 05 |
| | (c) | What is free radical addition reaction? Explain the mechanism of free radical addition with an example? | 05 |
| Q.2 | (a) | What are alcohols? Classify them? Outline the nomenclature, method of preparation and chemical reactions of ethyl alcohol? | 06 |
| | (b) | Explain the mechanism of electrophilic addition reaction in alkenes? | 05 |
| | (c) | What is hybridization? Describe the molecular orbital structure of methane? | 05 |
| Q.3 | (a) | What is SN2 reaction? Explain the mechanism with a suitable example? | 06 |
| | (b) | How will you differentiate E1 reaction and E2 reaction? | 05 |
| | (c) | Write a note on Diel-Alder reaction? | 05 |
| Q.4 | (a) | Give the reactions of carboxylic acids? | 06 |
| | (b) | How will you distinguish between aldehydes and ketones? | 05 |
| | (c) | Discuss the basicity of amines? | 05 |
| Q.5 | (a) | What is electrophilic addition reaction? Explain the mechanism with a suitable example? | 06 |
| | (b) | Explain the nucleophilic addition reactions of aldehydes and ketones? | 05 |
| | (c) | Explain the mechanism of dehydrogenation of alkyl halides? | 05 |
| Q. 6 | (a) | Comment the following statements- | 06 |
| | | i) Treatment of alkyl halides with aqueous alkali gives alcohol, while alcoholic alkali gives olefines. | |
| | | ii) Aliphatic amines are more basic than alcohols. | |
| | | iii) Alkenes undergo electrophilic addition whereas carbonyl compounds undergo nucleophilic addition. | |
| | (b) | Explain briefly cannizzaro reaction and perkin reaction? | 05 |

- (c) Write a short note on ozonolysis? 05
- Q.7 (a) What are the general methods of preparation of alkenes? Explain the mechanism of any one method? 06
- (b) Give the two methods of preparation and chemical reactions of benzaldehyde? 05
- (c) Write a note on antimarkownikoff's orientation? 05
