

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Ph. - SEMESTER-II • EXAMINATION – WINTER -2020**

**Subject Code: BP202TP**

**Date: 06/03/2020**

**Subject Name: Pharmaceutical Organic Chemistry I**

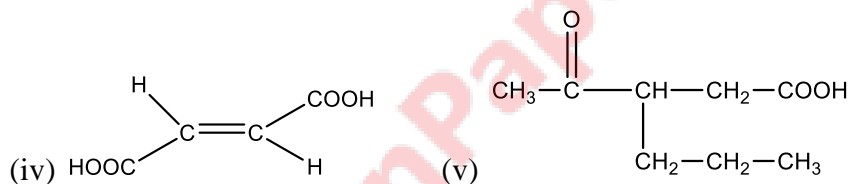
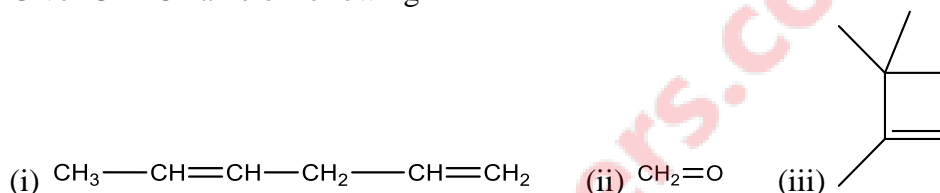
**Time: 10:30AM TO 12:30PM**

**Total Marks: 54**

**Instructions:**

1. Attempt any THREE questions from Q-1 to Q-6.
2. Q.7 is compulsory to attempt.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.

- Q.1** (a) Define structural isomerism. Give different structural isomers of hexane **06**  
 (b) Give IUPAC name of following **05**



- (c) What do you mean by Markownikoff's orientation? Explain with examples **05**
- Q.2** (a) Write a detail note on halogenation of alkanes **06**  
 (b) Draw the structure of the following **05**  
 (i) 2-propyl-1-pentene (ii) 3-cyanopentanoic acid (iii) 3-pentanone (iv) Benzyl bromide (v) Salicylic acid  
 (c) Explain mechanism and stereochemistry of Diels-Alder reaction **05**
- Q.3** (a) Write a brief note on (i) Ozonolysis (ii) Saytzeffs Rule **06**  
 (b) Differentiate between  $E_1$  and  $E_2$  reactions **05**  
 (c) Discuss the factors affecting  $SN_2$  reaction **05**
- Q.4** (a) Give qualitative tests, structure and uses of (i) Chlorobutanol (ii) Cetosteryl alcohol (iii) Benzyl alcohol **06**  
 (b) Explain mechanism and kinetics of  $SN_1$  reactions **05**  
 (c) Give structure and uses of (i) Amphetamine (ii) Hexamine **05**
- Q.5** (a) Explain the terms with examples (i) Benzoin condensation (ii) Electromeric effect **06**  
 (b) What is a nucleophilic addition reaction? Why do carbonyl compounds undergo nucleophilic addition? **05**  
 (c) Give brief account on acidity of carboxylic acids **05**
- Q.6** (a) Give structure and uses of (i) Chloroform (ii) Dichloromethane (iii) Ethylchloride **06**  
 (b) Give structure and uses of (iii) Citric acid (iii) Methyl salicylate **05**  
 (c) Explain the effect of substituents on basicity of aliphatic amines **05**

**Q.7** (a) Give qualitative tests and structure of (i) Paraldehyde (ii) Cinnamaldehyde (iii) Vanilin **06**

**OR**

(a) Explain the mechanism of Cannizzaro reaction **06**

**OR**

(a) Give brief account on rearrangement of carbocations **06**

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