Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM - SEMESTER– 2 EXAMINATION – SUMMER -2019

Subject Code: BP202TP **Date: 29-05-2019**

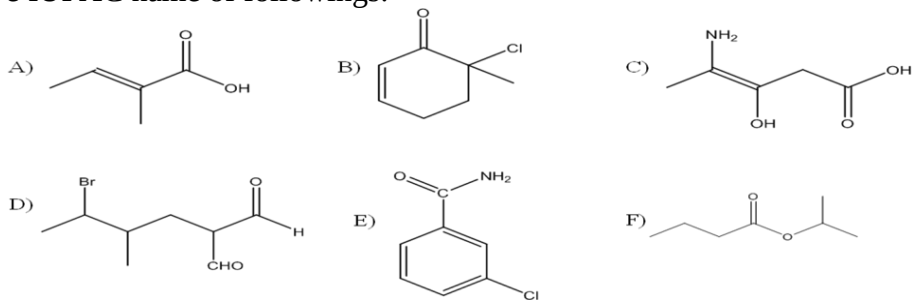
Subject Name: Pharmaceutical Organic Chemistry I

Time: 10:30 AM TO 01:30 PM **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)** Give IUPAC name of followings: **06**



(b) Write all possible isomers of C_4H_8 and name them by IUPAC system. **05**

(c) Define and classify organic compound. Explain SP^3 hybridization of alkane. **05**

Q.2 **(a)** Give the structure and uses of the following **06**
(1) Chlorobutanol (2) Methyl salicylate (3) Hexamine
(4) Vanillin (5) Paraldehyde (6) Ethylenediamine

(b) Describe effect of substituent on basicity of aliphatic amine. Why 2° amine is more basic than 1° and 3° amine in aqueous media? **05**

(c) Give three methods for synthesis of alkenes. **05**

Q.3 **(a)** Explain reaction mechanism of cannizzaro reaction and perkin condensation. **06**

(b) Explain acidity of carboxylic acid in brief. What is the impact on acidity of benzoic acid if it was substituted with –OH or $–CH_3$? **05**

(c) Mention method of preparation for carboxylic acid. Give any two qualitative tests for identification of carboxylic acid. **05**

Q.4 **(a)** Write Aldol condensation &Cross aldol condensation with reaction mechanism. **06**

(b) Explain method for synthesis of alkyl halides. **05**

(c) Describe the factors affecting the E1 and E2 reaction. **05**

Q.5 **(a)** Give general mechanism for nucleophilic addition of carbonyl compounds. Mention any three nucleophilic addition reactions of aldehyde or ketone. **06**

(b) Explain ozonolysis of alkene in detail. **05**

(c) Describe stability of conjugated dienes. **05**

Q. 6 **(a)** Differentiate Markownikoff's addition and Anti-markownikoff's addition to alkene. **06**

(b) Explain Saytzeff rule with examples. **05**

(c) What is pyrolysis? Give general reaction of pyrolysis for alkane. **05**

Q.7 **(a)** How will you distinguish 1°, 2° and 3° alcohol? Explain Grignard reaction for synthesis of alcohols. **06**

(b) Write note on Diel-Alder reaction. **05**

(c) Write short notes on SN_1 reaction in detail. **05**

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