

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 2 EXAMINATION – SUMMER -2019

Subject Code: BP202TP

Date: 29-05-2019

Subject Name: Pharmaceutical Organic Chemistry I

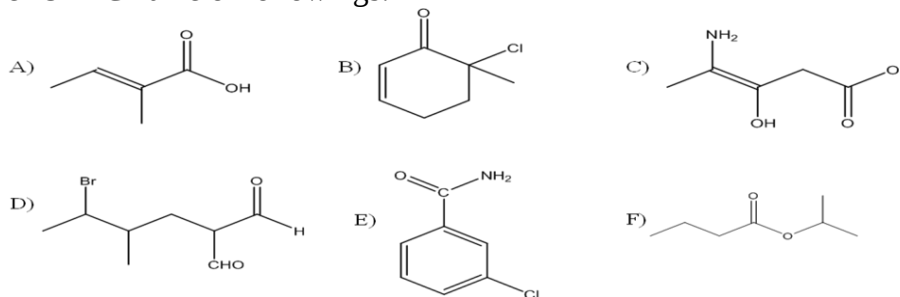
Time: 10:30 AM TO 01:30 PM

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. 06
Mention any three nucleophilic addition reactions of aldehyde or ketone.

(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 $SN1$ reaction in detail. 05
