

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Pharm . - SEMESTER– II • EXAMINATION – SUMMER -2020**

**Subject Code:BP202TP****Date: 27-10-2020****Subject Name: Pharmaceutical organic chemistry- I****Time: 10:30 AM TO 1:30 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) Write a note on Markovnikov's orientation. **06**  
(b) Draw the structure of following compounds, **05**  
A. Chloral hydrate      D. Citric acid  
B. Chlorobutanol      E. Iodoform  
C. Vanillin      F. Benzyl benzoate  
(c) Differentiate: SN<sub>1</sub> and SN<sub>2</sub> reactions **05**
- Q.2** (a) Write any three reactions of Amines. **06**  
(b) Write a note on Diels-alder reaction with examples. **05**  
(c) Discuss factor affecting E<sub>1</sub> reaction. **05**
- Q.3** (a) Explain reaction with mechanism of Cannizzaro reaction and Benzoin condensation. **06**  
(b) Write detail notes on carbocation. **05**  
(c) Give qualitative tests of ketones. Give structure and uses of acetone and hexamine. **05**
- Q.4** (a) Explain reaction with mechanism of Aldol and crossed Aldol condensation. **06**  
(b) Explain chlorination of methane with mechanism in details. **05**  
(c) Give two methods for synthesis of alkyl halides. **05**
- Q.5** (a) Write a note on acidity of carboxylic acids. **06**  
(b) Explain: SP hybridization in alkenes with examples. **05**  
(c) Give the reaction of following: **05**  
1. Ozonolysis  
2. Perkin condensation
- Q.6** (a) Write short notes on resonance and inductive effect. **06**  
(b) Give the preparation and reactions of conjugated dienes. **05**  
(c) Give structural formula of the following compounds: **05**  
1. Isopentene  
2. 2, 3 diethyl -4- pentyne  
3. 2,2,4,5 tetramethyl hexane  
4. 2- methoxy pentane  
5. 2, 3 dimethyl -3- hexene
- Q.7** (a) Give the reaction of following: **06**  
1. Allylic rearrangement  
2. Electrophilic addition reaction of alkenes  
3. Anti markownikoff's orientation  
(b) Justify: 1. Lower alcohols are insoluble in water. **05**  
2. Primary carbocation is more stable than tertiary carbocation.  
(c) How Grignard reagent prepared? Write synthetic utility of Grignard reagents. **05**