

**FACULTY OF PHARMACY**

**M. Pharmacy (Pharmaceutical Chemistry) I-Semester (PCI) (Main & Backlog)**  
**Examination, February 2020**

**Subject: Advanced Organic Chemistry-I**

**Time: 3 Hrs**

**Max. Marks: 75**

**Note: Answer any Five questions. All questions carry equal marks.**

- 1 a) Explain the structure and stability of carbocations and carbanions. 8M  
b) Discuss  $SN^2$  reactions with mechanism and stereo chemistry. 7M
- 2 a) Enlist the types of rearrangement reactions and discuss the mechanisms of any two.  
b) Explain the mechanism of E1 elimination with examples. (9+6)
- 3 Discuss the mechanism and applications of any three named reactions 15M  
a) Sandmeyer reaction  
b) Sharpless Epoxidation  
c) Michael reaction  
d) Mannich reaction
- 4 Write abt reaction mechanism and synthetic applications of  
a) Mitsunobu reaction and Mannich reaction.  
b) Baeyer-Villiger oxidation and Doebner-Miller Reaction. (8+7)
- 5 Write the preparation and synthetic applications of any three of the following  
a) Diazomethane  
b) Aluminium isopropoxide  
c) Dicyclohexyl carbodimide  
d) Wilkinsons reagent (15)
- 6 a) Give an acct of protection of Amine and Carboxyl grps and the ir synthetic importance.  
b) Give the reaction and explain mechanism of Knorr pyrazole synthesis and combes quinoline synthesis. (5+10)
- 7 tline the synthesis of following  
a) Celecoxib  
b) Ketoconazole  
c) Chloroquine (15M)
- 8 a) Explain C-C disconnection of alcohols and carbonyl compnds.  
b) Discuss the retro synthetic strategies for Five and six membered ring systems. (8+7)

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