

**FACULTY****B. Pharmacy 2/4 I – Semester (Supplementary) Examination, November 2017****Subject : Pharmaceutical Organic Chemistry I****Time : 3 hrs****Max. Marks : 70****Note: Answer all questions. All questions carry equal marks.**

- 1 a) Explain the following terms  
1) Inductive effect      2) Mesomeric effect      3) Resonance  
with suitable examples 2+3+3  
b) How do you differentiate between enantiomers and diastereomers? Explain  
with suitable examples. 6
- OR**
- c) Discuss the following with suitable examples.  
1) Polarity <sub>1</sub>      2) Solubility <sub>2</sub>      3) Inter molecular forces 2+2+2  
d) Explain  $sp^1$ ,  $sp^2$  and  $sp^3$  hybridization. 8
- 2 a) Discuss the importance of Bayer's strain theory. 7  
b) Write general methods of preparation of alkenes. 7
- OR**
- c) Explain the reactions of alkenes. 7  
d) Discuss the free radical mechanism for the chlorination of methane. 7
- 3 a) Explain  $E^1$  and  $E^2$  elimination reactions with mechanism. 5  
b) Give any three methods to synthesize alkyl halides. 9
- OR**
- c) Discuss the Williamson's synthesis of ethers. 7  
d) Explain Walden inversion and Ziesel's method. 7
- 4 a) Write synthetic applications of Diethyl Malonate and Ethyl acetoacetate. 7  
b) Discuss any three nucleophilic addition reactions of carbonyl compounds with  
mechanism. 7
- OR**
- c) Write any three methods of preparation of aldehydes and ketones. 9  
d) Give the reasons for following statements  
1) Bromoacetic acid is weaker than chloroacetic acid 2 1/2  
2) Formic acid is stronger than acetic acid 2 1/2
- 5 a) How to separate mixtures of amines by different methods? 10  
b) Write any two methods to prepare Nitroalkanes. 4
- OR**
- c) Give the synthetic applications of aryl diazonium salts. 8  
d) Write any three important reactions of amines. 6

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