

Code No. : **7007**

**FACULTY OF TECHNOLOGY**  
**B.Pharmacy II Year I Semester (Suppl.) Examination, June 2010**  
**PHARMACEUTICAL ORGANIC CHEMISTRY — I**

Time: 3 Hours]

[Max. Marks: 70

*Note : Answer all questions.*  
*All questions carry equal marks.*

1. a) Explain the following with suitable examples :

- i) Inductive effect
- ii) Dipole moment
- iii) Tautomerism
- iv) Resonance. (3.5x4=14)

OR

b) i) Predict the hybridization, geometry and bond angles in the following :

- A)  $\text{CH}_3 - \text{C} \equiv \text{N}$
- B)  $\text{CH}_2 = \text{N} - \text{CH}_3$
- C)  $\text{CH}_3\text{CHO}$  6

ii) What is activation energy ? Explain the energy diagram of reactants and products during a course of reaction with example. 8

2. a) i) Write any two methods of preparation of alkanes. 6

ii) Discuss the important free radical reactions of alkanes. 8

OR

b) i) Explain Markovnikov's addition and peroxide effect with suitable examples. 7

ii) What type of compounds exhibit geometrical isomerism ? Explain E-Z system of nomenclature. 7



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3. a) i) Explain the mechanism and stereochemistry of  $\text{SN}^1$  reactions. 7  
Describe any four methods of preparation of alkyl halides. 7  
OR
- b) i) Discuss the mechanism and stereochemistry of elimination reactions. 10  
ii) Explain Ziesel's method. 4
4. a) i) Describe the preparation of benzoic acid from benzaldehyde. 3  
ii) Describe the general methods of preparation of carboxylic acids. 7  
iii) Write a note on reactivity and synthetic uses of ethylacetoacetate. 4  
OR
- b) i) Describe the nucleophilic addition reactions of aldehydes and ketones. 10  
ii) Explain the mechanism involved in the preparation of schiff bases. 4
5. a) i) Write about the reactions of primary, secondary and tertiary amines with  $\text{HNO}_2$ . 6  
ii) Write a note on basicity of amines. 3  
iii) Describe the Hinsberg's method separation of amines. 5  
OR
- b) i) Give the preparation and synthetic applications of aryl diazonium salts. 8  
ii) Write any two general methods of preparation Nitroalkanes. 6