Code No. 6038

FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Main) Examination, November 2015

Subject : Pharmaceutical Organic Chemistry - I

Time : 3 Hours **Max. Marks: 70**

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

1 (a) (i) What is hybridization? Discuss Sp^1, Sp^2 and Sp^3 hybridizations with suitable examples. (8)
(ii) Discuss the following with suitable examples. (6)
(A) Molecular orbitals (B) Polarity of molecules (C) Covalent bond

OR

(b) (i) Explain the following with suitable examples (6)
(A) Resonance (B) Mesomeric effect (C) Inductive effect
(ii) What is activation energy? Discuss the energy diagrams of reactants and products during the course of the reaction. (8)

2 (a) (i) Write any three general methods to prepare alkenes. (6)
(ii) Explain Markovnikov's and anti- Markovnikov's addition of alkenes. (6)
(iii) Write a note on acidity of alkynes. (2)

OR

(b) Discuss the following:
(i) Bayer's strain theory (5)
(ii) Cis-trans isomerism (5)
(iii) Configuration and conformations (4)

3 (a) (i) Discuss SN^1 and SN^2 reactions with mechanism and stereochemistry. (8)
(ii) How do you distinguish primary, secondary and tertiary alcohols? (4)
(iii) Write about Walden inversion. (2)

OR

(b) (i) Explain E^1 and E^2 elimination reactions with mechanism and stereochemistry. (7)
(ii) Explain Saytzeff's rule. (3)
(iii) Write any two methods for synthesis of ethers. (4)

4 (a) (i) Write any three nucleophilic addition reactions of carbonyl compounds with mechanism. (8)
(ii) Write two methods each to prepare aldehydes and ketones. (6)

OR

(b) (i) Write synthetic applications of Diethyl malonate and Ethyl acetoacetate. (8)
(ii) Explain acidity of Carboxylic acids. (2)
(iii) Write any two methods to prepare carboxylic acids. (4)

5 (a) (i) Write any three methods of synthesis of nitroalkanes. (6)
(ii) Write about basicity of amines. (4)
(iii) Explain Hinsberg's method of separation of amines. (4)

OR

(b) (i) Write synthesis and applications of aryldiazonium salts. (6)
(ii) Give reaction of amines with Nitrous acid, alkylation and acylation. (5)
(iii) How do you differentiate primary, secondary and tertiary amines? (3)

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