

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharm. IST Semester Examination – June- 2011

Subject code: 910101

Subject Name: Advanced Organic Chemistry-I

Date: 22/06/2011

Time: 10:30 am – 01:30 pm

Total Marks: 80

Instructions:

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|-----|-----|---|----|
| Q.1 | (a) | Explain the SN ₂ mechanism with relevant equations & examples. Explain pseudo first order kinetics in this context. | 11 |
| | (b) | Write about evidences for E ₂ mechanism. | 05 |
| Q.2 | (a) | Write rules of resonance. Explain hyperconjugative, steric and electrostatic effects with suitable examples. | 11 |
| | (b) | Pinacol and pinacolone rearrangements | 05 |
| Q.3 | (a) | Write a brief note on Nitrogen and Sulphur Y-lide highlighting their generation and application in chemistry. | 11 |
| | (b) | Discuss photochemical reactions | 05 |
| Q.4 | (a) | Enumerate the mechanism for ester hydrolysis. Discuss about claisen condensation and mechanism of AAC ₂ and BAC ₂ . | 11 |
| | (b) | Write a note on addition reactions | 05 |
| Q.5 | (a) | Discuss Beckman rearrangement and Hofmann rearrangement. | 06 |
| | (b) | Write about Markovnikov's rule | 05 |
| | (c) | Discuss rearrangement of free radicals | 05 |
| Q.6 | (a) | Orientation and reactivity of aromatic electrophilic substitution in benzene | 06 |
| | (b) | Write in detail about photochemical rearrangements | 05 |
| | (c) | Discuss aromaticity of non benzoid molecules | 05 |
| Q.7 | (a) | Write in brief about hybridization of orbitals. Why molecules of ammonia and water are pyramidal and bent in shape respectively | 06 |
| | (b) | Write about beta elimination reactions and give E _{1cB} mechanism | 05 |
| | (c) | Discuss stereochemistry of SN ₁ mechanism | 05 |
