Exam Code: 0431
Sub. Code: 3441

2012

M.Sc. (Applied Chemistry/Pharmaceutical)

First Semester

Paper – 101: Organic Chemistry – I

Time allowed: 3 Hours | Max. Marks: 60

***NOTE**: Attempt five questions in all, including Question No. IX (Unit-V) which is compulsory and selecting one question each from Unit I -IV.*

x-x-x

UNIT– I

1. Explain the following reactions with mechanism:
   (a) Aldol Condensation
   (b) Stork Enamine Reaction **(6,6)**

2. Discuss the following reactions with mechanism :
   (a) Mannich reaction
   (b) Wittig reaction **(6,6)**

UNIT– II

3. Discuss (taking appropriate examples) the important uses of the following reagents in organic synthesis and functional group transformations :
   (a) Wilkinson Catalyst
   (b) Lithium diisopropyl amide (LDA)
   (c) Merrifield Resin **(3×4)**

4. Write short notes on the following :
   (a) Crown Ethers
   (b) Dipole Inversion
   (c) Peterson's reaction **(3×4)**

P.T.O.

UNIT– III

5. (a) Discuss S_N^1 mechanism with evidence .

(b) What is the effect of substrate structure in S_N^1 and S_N^2 reactions . **(6,6)**

6.(a) Illustrate the SET mechanism with examples

(b) Write the factors governing the regioselectivity in ambient nucleophiles. **(6,6)**

UNIT– IV

7. (a) Write the mechanism and limitation of Friedel Craft's Alkylation of the aromatic Compounds .

(b) Discuss the Fries Rearrangement with suitable example. **(6,6)**

8. Write Notes on :

(a) Benzyne mechanism for aromatic nucleophilic substitution reaction.

(b) Von Richter Rearrangement **(6,6)**

UNIT–V

9. (a) What is Perkin Reaction ?

(b) What is Phase Transfer Catalysis ?

(c) What are ambient nucleophiles?

(d) What is IPSO attack ?

(a) What is Smiles rearrangement ?

(b) What is Diazonium Coupling ? **(6×2)**

x-x-x