

- (r) Write a note on synthon and target molecule.

4

5. (a) What happens when Amide with no substituent on the nitrogen react with solution of bromine or chlorine in sodium hydroxide ? Write and name the reaction.

5

- (b) Discuss synthetic importance of Mannich reaction in pharmaceutical chemistry.

5

- (c) What is Grignard reagent ? Give the synthesis and chemical reaction of Grignard reagent ? Discuss its synthetic importance.

6

OR

- (p) What is Meerwin-Pondroff's reduction ? Explain its synthetic importance.

5

- (q) Give the synthesis and chemical reactions of Reformatsky reaction.

5

- (r) Discuss Oppeneaur oxidation and its mechanism. Give its importance in pharmaceutical chemistry.

6



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4

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AQ - 1049

Third Semester M. Sc. (Part - II) (CBCS)  
Examination

## PHARMACEUTICAL CHEMISTRY

Paper - 3 SA 3

Advance Organic Chemistry - I

P. Pages : 4

Time : Three Hours]

[Max. Marks : 80

Note : All questions are compulsory and carry equal marks.

1. (a) Explain with suitable example :

(I) Carbocations.

(II) Nitrenes.

(III) Free radical.

12

- (b) Discuss how isotopic labelling used to determine mechanism of ester hydrolysis.

4

OR

- (p) Explain in detail :--

(a) Localized and delocalized chemical bonding.

(b) Acids and Bases with examples.

12

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P.T.O.

(q) Discuss the effect of structure on reactivity. 4

2. (a) How will you define elimination reaction ? Explain it with examples. Discuss rearrangement reaction with any two examples. 12

(b) Explain with examples protection of carboxylic group. 4

OR

(p) Discuss how will you protect Carbonyl compounds in aldehydes and ketones. 4

(q) Explain in detail Addition reaction and substitution reaction. 12

3. (a) What is Chirality ? Discuss the techniques used for preparation of chiral drugs with examples. 12

(b) Give the introduction of symphoria. Explain with example intra molecular nucleophilic attack. 4

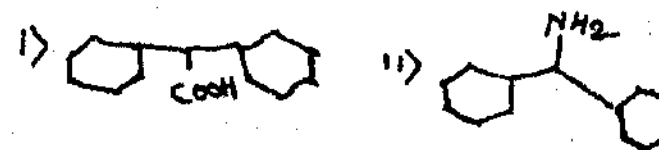
OR

(p) What is neighbouring group effect ? How does it affect with reference to stereochemistry ? 8

(q) What is asymmetric synthesis ? Explain with suitable examples. 4

(r) Describe intra-molecular nucleophilic attack with suitable example. 4

4. (a) Based on disconnection approach, outline a convenient synthesis of each of the following compounds :—



12

(b) Write a note on 1, 3 and 1, 5-difunctional compounds with examples. 4

OR

(p) Define the following terms :—

(i) Synthion.

(ii) Disconnection.

(iii) Synthetic equivalent.

(iv) Functional group interconversion. 4

(q) Discuss the guidelines for choosing suitable disconnection with examples. 8