

8. (a) Give methods of protections and deprotection of amino group by using Boc, Fmoc and Alloc. **12**
- (b) What are protecting groups and explain their role in organic synthesis ? Discuss the important features of a good protecting group in multi-step organic synthesis ? **8**

No. of Printed Pages : 4

Roll No.

CC299

M.Sc. EXAMINATION, May 2019

(Third Semester)

(B. Scheme) (Re-appear)

CHEMISTRY

CH617B

Organic Chemistry Special-III (Heterocyclic
Chemistry)

Time : 3 Hours]

[*Maximum Marks : 100*

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

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P.T.O.

Unit I

1. (a) What are Azoles ? How are they classified ? Discuss aromaticity and basicity of 1, 3-azoles. **15**
(b) How can you synthesize thiazole from α -aminonitriles. **5**
2. (a) Write two methods of synthesis of oxazoles and discuss its various reactions. **15**
(b) Give Gabriel's synthesis of imidazole with mechanism. **5**

Unit II

3. (a) How was the structure of adenosine established ? **10**
(b) Discuss the structure of caffeine along with its synthesis. **10**
4. (a) Discuss in detail the structure elucidation of uric acid. **13**
(b) How is the position of phosphate linkage in a nucleotide established ? **7**

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Unit III

5. (a) Discuss the following : **15**
(i) Wittig reaction
(ii) Sommet-Hauser rearrangement
(iii) Steven's rearrangement
(b) Write an explanatory note on Horner Wadsworth Emmons olefination. **5**
6. (a) Give two methods each of the formation of phosphorous and sulphur ylides. **5**
(b) Discuss role of nitrogen ylides in synthesis of various heterocyclic compounds. **13**

Unit IV

7. (a) Discuss the methods employed for the protection and deprotection of carbonyl group. **10**
(b) Give methods of protection and deprotection of phenol via ether formation. **10**

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P.T.O.