

## B. PHARMACY SECOND YEAR FIRST SEMESTER - 2019

Subject : PHARMACEUTICAL CHEMISTRY - III  
(ORGANIC II)

Time : 3 hrs

Full Marks : 100

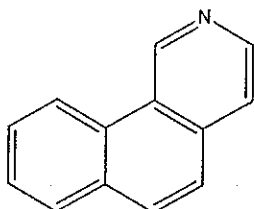
Answer any FIVE questions taking at least ONE from each group. ALL parts of a question must be answered in the same place of the answer-script.

## Group A

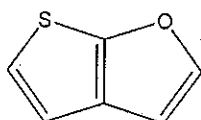
1. (a) Give systematic nomenclature of the following compounds:

[3 x 2]

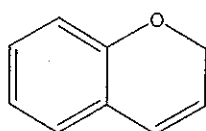
(i)



(ii)



(iii)



(b) Draw structures of the following heterocycles with numbering:

[4]

(i) Morpholine; (ii) Quinoxaline; (iii) Phthalazine; (iv) Pteridine

(c) Illustrate: (i) Reactions of furfural; (ii) Reactions of furoic acid

[5+5]

2. Write notes on:

[4 x 5]

- (i) Skraup synthesis
- (ii) Conrad Limpach synthesis
- (iii) Bischler Napieralsky synthesis
- (iv) Knorr Pyrrole synthesis

3. Give an account of different methods of synthesis of indole. Write down reactions of pyrrole.

[10 + 10]

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## Group B

4. Short note on following? 20
- A. Hantzsch synthesis of pyridine
  - B. Electrophilic addition to pyridyl nitrogen
  - C. Chichibabin reaction
  - D. Nucleophilic substitution reactions of pyridine
5. Explain the following with examples?
- A. Hydrogen Bonding and tautomerism in Imidazoles 5
  - B. Imidazole Reactions with different Electrophilic Reagents 10
  - C. Short note on 1,4-Benzodiazepine 5
6. Solve the following? 20
- A. Types of coumarins (Structural)
  - B. Physical properties of purine
  - C. Biological Reactivity of  $\beta$ -Lactams
  - D. Derivatives of purine