

B. PHARMACY SECOND YEAR SECOND SEMESTER - 2023**PHARMACEUTICAL ORGANIC CHEMISTRY III**

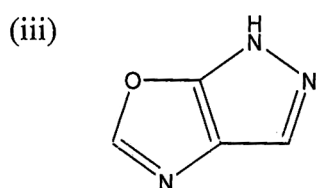
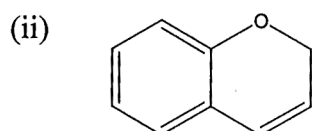
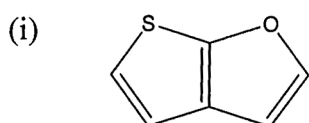
Time : 3 hrs

Full Marks : 75

Answer any **five** taking at least *one* from each group

Group A

1. (a) Give systematic nomenclature of the following compounds: [3 x 2]



(b) Draw structures of the following heterocycles with numbering: [4 x 2]

(i) Isooxazole; (ii) Tetrazole; (iii) Piperidine; (iv) Piperazine

(c) Are lactones aromatic? [1]

2. Write notes on (any three):

- (i) Feist-Benary synthesis
- (ii) Knorr pyrrole synthesis
- (iii) Hantzsch pyrrole synthesis
- (iv) Skraup Synthesis
- (v) Fischer indole synthesis

[3 x 5]

3. Discuss synthesis and reactions of Furfural. [5 +10]

B. Pharm. 2nd Year 2nd Semester Examination, 2022-23
Subject: Pharmaceutical Organic Chemistry III (Theory)
Sub Code: BP401T

Full Marks: 75

Time: 3 hours

Answer any **five questions** taking **at least one** from each group but **not more than two**.

Group B

1. How will you prepare NaBH₄? What is the mechanism of reduction of LiAlH₄? Explain the role of LiAlH₄ in reduction of Carbonyl compounds, acids and their derivatives? Explain with suitable reaction. [4+4+7]

Or

Write the principle and mechanism of Clemmensen reduction. What are the basic differences between Clemmensen and Wolff-Kishner reduction reaction? Explain with suitable example. [11+4]

2. Write the principle, mechanism and applications of Beckmann rearrangement. [15]

Or

Write the principle, mechanism and applications of Birch reduction. [15]

Group C

3. Discuss the properties, synthesis, reactions and medicinal uses of pyridine. [3+3+6+3]

4. Write short notes on any three of the followings. [5x 3]

- (a) Knorr pyrazole synthesis
- (b) Electrophilic substitution reactions of pyrazole
- (c) Synthesis of imidazole
- (d) Electrophilic addition reactions of imidazole