Ref. No. : Ex/BP401T/2024

B. PHARMACY SECOND YEAR SECOND SEMESTER - 2024

PHARMACEUTICAL ORGANIC CHEMISTRY III

Time : 3 hrs Full Marks : 75

Answer any **FIVE** questions taking at least one from each group.

Group A

1. Write notes on: [3 x 5
   a. Skarup synthesis b. Bischler Napieralsky synthesis c. Doebner von Miller synthesis

2. Give different methods of synthesis and reactions of Indole. [8 + 7

3. Show the following: [3 x 5
   a. Diels Alder reaction of Furan
   b. Preparation of 2,5-Dinitrofuran
   c. Resonating structures of Thiophene

Group B

4. How will you prepare $LiAlH_4$? What is the mechanism of reduction of $NaBH_4$? Explain the role of LiALH4 in reduction of Carbonyl compounds, acids and their derivatives? Explain with suitable reaction. [4+4+7

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

6. Write the principle of the following name reactions. [3x5=15
i) Clemmensen reduction ii) Wolff-Kishner reduction iii) Birch reduction

Group C

7. Discuss the tautomerism, aromaticity and hydrogen bonding properties of pyrazole. Write about different reactions of pyrazole and its medicinal use. [6+9]

8. Describe the various synthesis of imidazole and pyridine. Write about electrophilic addition and electrophilic substitution reaction of imidazole and pyridine. [7+8]