

TKN/KS/16/6988

B.Pharm. Semester-IV (C.B.S.) Examination
PHARMACEUTICAL CHEMISTRY-IV
(Heterocyclic and Macromolecules)
Paper—2 (4T2)

Time—Three Hours]

[Full Marks—80

N.B. :- (1) Question No. 1 is compulsory.

- (2) Solve any **FOUR** questions from the remaining.
- (3) Draw neat labeled diagram wherever necessary.
- (4) Discuss the reaction, mechanism wherever necessary.
- (5) Assume suitable data wherever necessary.

1. Solve any **FIVE** of the following :

- (a) Define Saponification Value and Iodine Value with its significance.
- (b) Write the biological importance of heterocycles in medicinal chemistry.
- (c) Write the chemical properties of Pyrimidine.

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|---|--------|---|----|
| (d) Write a note on mutarotation phenomenon in Carbohydrates. | | 6. (a) Define and classify Lipids. Explain various pharmacopoeial standards to check purity of oil. | 8 |
| (e) Pyridine is more basic than Pyrrole. Explain. | | (b) Write a note on Phospholipids. | 7 |
| (f) Differentiate between fats, oils and waxes. | | 7. Attempt the following (any THREE) : | |
| (g) Why Pyrrole undergoes electrophilic substitution reaction of C-2 position ? | 4×5=20 | (a) Fischer-Indole Synthesis | |
| 2. (a) What are heterocyclic compounds ? Discuss in detail about chemistry, properties and synthesis of Pyridine. | 8 | (b) Chemistry of Maltose | |
| (b) Discuss the reaction and mechanism of Skroup's synthesis of Quinoline. | 7 | (c) Bischler-Napierolski reaction of Isoquinoline | |
| 3. (a) Discuss the structure and synthesis of Naphthalene. | 8 | (d) Chichibabin reaction | |
| (b) Write the chemical properties of Naphthalene. | 7 | (e) Structure of Amygdalin. | 15 |
| 4. (a) Define and classify carbohydrates giving suitable examples with structure. Add a note on cyclic structure of D-glucose. | 8 | | |
| (b) Describe in detail about Killiani-Fischer synthesis and Ruff's degradation method. | 7 | | |
| 5. (a) Define and classify Amino acids with suitable structure. Give any one method for amino and carbonyl end degradation of amino acid. | 8 | | |
| (b) Discuss the secondary structure of proteins. | 7 | | |