

## B.Pharm (Fourth Semester) (C.B.S.) Examination

## PHARMACEUTICAL CHEMISTRY—IV

## (Heterocyclic And Macromolecules)

## Paper—2

Time : Three Hours]

[Maximum Marks : 80

- N.B. :**— (1) Question no. **1** is compulsory.  
 (2) Solve any **four** questions from remaining.  
 (3) Assume suitable data wherever necessary.  
 (4) Discuss the reaction, mechanism wherever necessary.

1. Solve any **five** of the following : 4×5=20
- Pyrimidine undergoes electrophilic substitution at 5-position only. Why ?
  - Why pyridine is more basic than pyrrole ?
  - Write a note on mutarotation.
  - Draw the structures of maltose, salicin.
  - Give Bischler-Napieralski reaction of Isoquinoline.
  - Write the chemical properties of thiophene.
  - Define acid value and saponification value with its significance.
2. (a) What are lipids ? Explain in brief about phospholipids. 8  
 (b) Discuss the various chemical constants used for evaluation of oil. 7
3. (a) What are proteins ? Give their classification. How will you determine secondary structure of protein ? 8  
 (b) Discuss various methods used for determination of C-terminal amino acid residue in protein/polypeptide. 7
4. Define polynuclear aromatic hydrocarbon and classify it with structure. Discuss the structure, synthesis and chemical reactions of Anthracene. 15
5. Define and classify carbohydrate giving suitable examples with structures. Explain in brief Killiani-Fischer synthesis, Wohl's degradation and Ruff's degradation method of carbohydrate. 15

6. (a) Define and classify amino acid with structures. Discuss isolation and purification of amino acids from protein mixture. 8
- (b) Discuss osazone formation and Glycoside formation of monosaccharides. 7
7. Solve any **three** :
- (a) Skraup's Quinoline synthesis
- (b) Chichibabin reaction
- (c) Fischer-Indole synthesis
- (d) Haworth synthesis of Naphthalene
- (e) Structure chemistry and importance of phenothiazine. 5×3=15