

**NTK/KW/15 – 6988**

**Fourth Semester Examination for the Degree  
of Bachelor of Pharmacy**

**PHARMACEUTICAL CHEMISTRY-IV**

**Heterocyclic and Macromolecules**

**Paper - 4 T 2**

Time : Three Hours ]

[ Max. 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.

1. Comments on the following (any five) :—

- (a) Importance of heterocycles in Pharmaceutical Sciences.
- (b) Interconversion of glucose to fructose.
- (c) Cyclic structure of monosaccharides.
- (d) Synthesis of Alpha amino acids.
- (e) Pschore synthesis of pheanthrene.
- (f) Pyridine is stronger base than pyrrole.
- (g) Saponification value of fats. 5x4=20

2. Give preparation, properties and uses of the following:

- (i) Imidazole.      (ii) Pyridine.
- (iii) Furan. 15

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Contd.

3. Discuss synthesis, properties and biological importance of Quinoline and purine. 15
4. (a) Give synthesis and important properties of Naphthalene. 8  
(b) Discuss various characteristics values used to identify and detect adulteration in fixed oils and fats. 7
5. (a) Discuss structural elucidation of sucrose as disaccharide. 8  
(b) Explain oxidative reactions in monosaccharide. 7
6. (a) Define and classify amino acids with suitable structures. 8  
(b) Discuss various methods for synthesis of polypeptides. 7
7. (a) Write short notes on (any **three**) :—  
(i) Mutarotation.  
(ii) Epimerization.  
(iii) Phospholipids.  
(iv) Glycosides. 3X5=15