B. Pharm. (Second Semester) (C.B.S.) Examination

PHARMACEUTICAL CHEMISTRY—II (Organic)

Paper—2

Time : Three Hours] [Maximum Marks : 80

N.B. :— (1) Question No. **1** is compulsory.

(2) Solve any **FOUR** questions from remaining.

(3) Draw neat labelled diagram wherever necessary.

(4) Discuss the reaction, mechanism wherever necessary.

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

(a) Why the melting point of inorganic compounds is more than that of organic compounds ?

(b) Give the various sources of organic compounds and write in detail about the scope of organic chemistry.

(c) What is hybrid orbital ? Explain concept of hybridization.

(d) Differentiate configuration and conformation.

(e) Give the uses of alkyl halides and alkanes.

(f) Explain in brief about intermolecular and intramolecular forces of molecules.

(g) Which is the most stable conformation of cyclohexane and why ? 20

2. (a) What are racemic mixtures ? Explain various methods of resolution of racemic mixture. 8

(b) Write in detail about Kjeldahl's method for nitrogen estimation. 7

3. (a) Define the term empirical formula and molecular formula. How molecular formula and molecular weight of compound is determined ? Explain with suitable examples. 8

(b) Write a note on Lassaigne test. 7

4. (a) Define the term conformation. Write in detail about conformation of n-butane with energy profile diagram. 8

(b) Explain various types of organic reactions with an example from each class. 7

5. (a) Give brief account on hydrogen bonding and explain its effect on aqueous solubility and bond lengths. 9

(b) Draw structure of following compounds (any **THREE**) :

(i) 1, 3, 5- tribromobenzene

(ii) 3- hydroxy butanoic acid

(iii) 3- bromo- 2- methyl propane

(iv) 3- chloro butanal. 6

6. (a) Define and classify alcohols with suitable examples. How is differentiation between primary, secondary and tertiary alcohols carried out ? 9

   (b) Define the following terms with examples :

   (i) Stereoisomerism

   (ii) Enantiomers and diastereomers

   (iii) Geometrical isomerism. 3×2=6

7. Write short notes on (any **THREE**) :

   (a) Bayer Strain Theory

   (b) Hinsberg Test for Amines

   (c) Sequence Rule

   (d) Electronic Configuration. 5×3=15