NTK/KW/15/6982

Faculty of Pharmacy

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

PHARMACEUTICAL CHEMISTRY—III (ORGANIC)

Paper—II (3T-2)

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.

1. Solve any **FIVE** of the following : 5×4=20

(a) Write the mechanism of Hofmann degradation reaction.

(b) Justify that SN 1 reactions are accompanied by rearragement.

(c) Explain conformation of n-butane.

(d) Why cyclopropane always undergo ring opening reaction ?

(e) State how heat of hydrogenation proves unusual stability of benzene.

(f) Explain any two reactions of carboxylic acid.

(g) Aldehydes are more reactive than ketone. Explain.

2. (a) Discuss Aldol condensation with suitable examples. 8

(b) Explain Cannizzarro's reactions with suitable examples. 7

3. Give detailed account of SN^2 reaction including mechanism, orientation and reactivity. 15

4. Outline the laboratory synthesis of following from benzene :

(a) p-chloro benzoic acid

(b) p-toluidine

(c) Diphenyl methane

(d) m-bromo phenol

(e) Styrene. 15

5. Write in detail about method of preparation of alkenes using suitable examples. 15

6. (a) Elaborate the detailed account of E2 mechanism supporting evidences and sterochemistry. 8

(b) Write a short note on Hinsberg test. 7

7. Discuss the electrophilic aromatic substitution reaction of benzene with :

(a) Nitration

(b) Sulphonation

(c) Friedel-Craft's alkylation

(d) Friedel-Craft's acylation

(e) Halogenation. 15