KNT/KW/16/6565

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

PHARMACEUTICAL MEDICINAL CHEMISTRY—I

Paper—2 (5T2)

Time : Three Hours] [Full Marks : 80

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

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

(3) Draw neat labeled diagram wherever necessary.

(4) Discuss the reaction, mechanism wherever necessary.

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

   (a) Write chemical classification of NSAIDs with suitable examples.

   (b) Give general rules for nomenclature of prostaglandins.

   (c) Classify antitussives with suitable examples. How will you prepare caramiphen ?

   (d) Justify citing suitable examples, how drug metabolism studies can be useful in drug development.

   (e) Enumerate the ideal properties of prodrugs.

   (f) Why benserazide is given in combination of levodopa to treat Parkinson's disease ?

   (g) Write about various stages of analgesia. 5×4=20

2. Discuss the chemistry and activity of oral hypoglycemic agents. Outline synthesis of glipizide. 15

3. (a) What is bioisosterism ? How is it useful in design of drugs ? 8

   (b) Explain the role of pka in the biological activity of drugs. 7

4. What are local anaesthetics ? Classify them with suitable examples. Discuss the SAR of benzoic acid as local anaesthetics. Outline synthesis of orthocaine and xylocaine. 15

5. (a) What are antihistamines ? Write the difference between H_1 receptor blockers and H_2 receptor blockers. 7

   (b) What principles are utilized in prodrug design for taste masking and odour improvement of drug ? Justify with suitable examples. 8

6. (a) Explain chemistry of barbiturates as sedative and hypnotics. Outline synthesis of thiopental sodium. 7

   (b) Write the SAR of tricyclic antidepressant drugs. Write synthesis of amitryptilene. 8

7. Write short notes on any **THREE** of the following :—

   (a) Bronchodilators

   (b) Hydantoins

   (c) Thyroid and antithyroid drugs

   (d) Glucuronidation

   (e) Morphine. 15