

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 H₁ receptor blockers and H₂ 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 amitriptylene. 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