

5. (a) Explain giving the mechanism of action of dopamine how carbidopa can be used to potentiate its action. 5
- (b) What are sympathomimetic drugs? Discuss their clinical uses. 5
- (c) What is dose response curve? Explain how it can be used to differentiate between a competitive and noncompetitive antagonist. 5
6. (a) How does half-life influence the dosing interval of a drugs? 5
- (b) Explain the factors on which depth of anaesthesia depends for inhalational anaesthetic agents. 5
- (c) Discuss the classification of antimicrobial agents. What are the problems associated with the use of various antimicrobial agents? 5

[This question paper contains 4 printed pages]

Your Roll No. :

Sl. No. of Q. Paper : 2029 I

Unique Paper Code : 3182012403

Name of the Paper : Pharmacology

Name of the Course : **B.Sc. (H) Biomedical Science (NEP-UGCF)**

Semester : IV

Time : 3 Hours

Maximum Marks : 90

Instructions for Candidates :

- (a) Write your Roll No. on the top immediately on receipt of this question paper.
- (b) Attempt any **FIVE** questions in **all**. Question **NO.1** is compulsory.
- (c) Subparts of the questions should be attempted together.

1. (a) Define (**Any Five**) 5×2=10

(i) Drug Clearance

(ii) Steady State Plasma Concentration

(iii) Blood Brain Barrier

- (iv) Non-Proprietary Name
- (v) Therapeutic Window
- (vi) Cholinomimetic drugs
- (b) Differentiate (**Any three**) 3×4=12
 - (i) Placebo and Nocebo
 - (ii) Enteral and Parenteral route of drug administration
 - (iii) Bioequivalent and Therapeutically equivalent drugs
 - (iv) Pharmacodynamics and Pharmacokinetics
- (c) State **true** and **false** and Justify. 4×2=8
 - (i) Overuse of narrow spectrum antibiotics leads to development of superinfection
 - (ii) The greater the extent of plasma protein binding of a drug, higher its apparent volume of distribution.
 - (iii) Aspirin can be used for patients with peptic ulcers.
 - (vi) Changes in urinary pH does not affect the tubular reabsorption of drugs.
- 2. (a) What is volume of distribution? What are the factors on which volume of distribution depends? 8

- (b) Discuss the different mechanisms through which drug is able to cross the biological membrane. Discuss how the pKa of the drug and pH of the medium influence this process. 7
- 3. (a) Differentiate between the different types of metabolic enzyme that are involved in metabolism of drugs. What is enzyme induction? What will be the consequence of this induction for any drug? 8
- (b) What are oral hypoglycemic agents? Discuss the classification and the mechanism of action for each class. 7
- 4. Give the mechanism of action of the following drugs along with their clinical uses. (**Any three**) 5+5+5=15
 - (a) Succinyl Choline
 - (b) Diazepam
 - (c) Progesterone
 - (d) Celecoxib