

Time: 3 hours

Note: This question paper contains two parts A and B. Max. Marks: 75  
 Part A is compulsory which carries 25 marks. Answer all questions in Part A.  
 Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

## PART - A

(25 Marks)

1. a) Define pharmacodynamics and give one example. [2]
- b) Write about factors influencing gastric emptying. [3]
- c) A drug is having 400 liters of volume of distribution. Comment on its plasma concentration. [2]
- d) Mention the implications of protein binding. [3]
- e) Define clearance and mention its significance. [2]
- f) Write about excretion through bile. [3]
- g) Name the methods for calculation of area under the curve. [2]
- h) Name the types of bioavailability studies and mention their advantages. [3]
- i) Define compartment and mention the uses of compartment modeling. [2]
- j) Mention the advantages of non invasive methods for calculation of pharmacokinetics. [3]

## PART-B

(50 Marks)

2. Explain the role of dosage form in drug absorption with suitable examples. [10]
- OR
3. a) Write about pH partition hypothesis and its limitations. [6]
  - b) Discuss the influence of particle size on drug absorption. [4]
4. a) Define volume of distribution and explain its significance. [5]
  - b) Write about kinetics of protein binding. [5]
- OR
5. Write about factors influencing the drug distribution. [10]
6. Mention the significance of biotransformation and explain phase I biotransformation reactions. [10]
- OR
7. Explain the influence of enzyme induction and inhibition on drug action. [10]
8. Write the CDSCO guidelines for bioavailability testing procedure and protocol. [10]
- OR
9. Explain the methods for improving bioavailability. [10]
10. Explain one compartment open model and its applications in calculation of pharmacokinetic parameters. [10]
- OR
11. Explain the calculation of absorption rate constant by method of residuals. Mention its limitations in comparison with Wagner-Nelson method. [10]