

# Question Paper

Exam Date & Time: 24-Apr-2023 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

Instructions: Answer ALL questions.

### Biopharmaceutics and Pharmacokinetics [PPR 4.5T-S3]

Marks: 70

Duration: 180 mins.

#### Section A

Answer all the questions.

Long Answer Questions (3 x 10 marks = 30 marks)

- 1) Explain mechanisms of drug absorption (10)
- 2) Explain the principal processes of urinary elimination of drugs. (10)
- 3) Explain one compartment open Model for IV bolus administration and calculation of PK parameters of this model (10)

#### Section B

Answer all the questions.

Short Answer Questions (6 x 5 marks = 30 marks)

- 4) Discuss on the binding sites of human serum albumin with appropriate illustration (5)
- 5) Explain the concept of compartment models with appropriate illustration (5)
- 6) Explain two compartment model with appropriate illustration (5)
- 7) Briefly explain about the bioavailability study protocols (5)
- 8) Explain the principles of multiple dose kinetics with IV bolus administration (5)
- 9) Explain about non-linear pharmacokinetics with relevant equations (5)

#### Section C

Answer all the questions.

Give Reasons for the Following (5 x 2 marks = 10 marks)

- 10) MRT is the equivalent of half-life in Non-compartmental model (2)
- 11) Non-compartment model has certain advantages (2)
- 12) Protein binding is altered in hepatic failure (2)
- 13) Enterohepatic circulation increases the half-life of drug (2)
- 14) PBPK model development needs lot of input parameters (2)

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