

Question Paper

Exam Date & Time: 21-Jun-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Instructions: Answer ALL questions.

Biopharmaceutics and Pharmacokinetics [PPR 4.5T-S1]

Marks: 70

Duration: 180 mins.

Section A

Answer all the questions.

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

- 1) Explain patient related factors affecting drug absorption (10)
- 2) Explain the physiologic barriers to drug distribution (10)
- 3) Explain one compartment open Model for IV bolus administration. (10)

Section B

Answer all the questions.

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

- 4) Discuss about the factors affecting protein-drug binding (5)
- 5) Explain the Michaelis-Menten pharmacokinetics. (5)
- 6) Explain two compartment models with suitable illustration (5)
- 7) Discuss about Non-compartment model (5)
- 8) Explain one compartment open model for repetitive IV bolus administration. (5)
- 9) Explain cross-over design used in bioequivalence studies (5)

Section C

Answer all the questions.

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

- 10) First pass metabolism reduces the bioavailability (2)
- 11) Non-linear kinetics is also known as mixed order kinetics (2)
- 12) Volunteers between only 20 to 40 years of age are selected for BE studies (2)
- 13) Physiologically based pharmacokinetic models are called as mechanistic models (2)
- 14) Creatinine is a marker of renal function (2)

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