

Question Paper

Exam Date & Time: 13-May-2023 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

Modern Bioanalytical Techniques [PCH-MPA202T -S1]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1) Explain solid phase extraction, liquid-liquid extraction and continuous liquid-liquid extraction methods as sample preparation methods in biopharmaceutical analysis. (10)
- 2) Explain the methods used for assessing Bioavailability and Bioequivalence. (10)
- 3) What is transcellular transport in drug transport mechanism? Explain passive transport process in drug absorption with suitable example. (5)
 - A)
 - B) Explain permeability assay of drug by tissue techniques. (5)
- 4) Explain general principles to be considered in toxicokinetic studies in preclinical stage. 7 Marks (10)
Explain protein drug binding interactions. 3 Marks
- 5) What are the uses and advantages of cell culture techniques? (5)
 - a)
 - b) Classify biosafety labs. What type of materials can be used in biosafety labs? (5)

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Explain any three alternative methods for dissolution testing. (5)
- 7) Explain with suitable example the transporter mediated drug-drug interactions. (5)
- 8) What are the ways to reduce contamination in a cell culture lab? (5)
- 9) Explain the principle and applications of Resazurin Reduction Assay (5)
- 10) Explain the applications of analytical techniques used in metabolic studies. (5)

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