

Question Paper

Exam Date & Time: 17-May-2024 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

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

Computer Aided Drug Delivery Systems [PCE-MPH203T -S1]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

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

- 1) Write an overview on the history of computers in Pharmaceutical R&D (10)
- 2) Discuss quantitative and qualitative modelling techniques. What are substrate requirements for (i) P-gp (ii) BCRP transport? (10)
- 3) Explain the issues related to computer ethics (10)
- 4) Describe the steps involved in the convolution and deconvolution approach in the context of IVIVC. List the conditions for satisfying the biowaiver criteria. (10)
- 5) Discuss briefly any five pharmaceutical applications of Artificial Intelligence. (10)

SECTION - B

Answer all the questions.

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

- 6) Write the significance of components of the drug product and overages in Pharmaceutical Development as per ICHQ8(R2) (5)
- 7) Discuss the structural features required for (i) nucleoside transporter and (ii) OATP mediated transport. (5)
- 8) What is the Confounding effect? Explain design resolutions in a fractional factorial design. (5)
- 9) Describe the principles of physiology based pharmacokinetics and its approaches for drug development (5)
- 10) Enlist basic components of a Robotic system. Write the applications of Pharmaceutical Robots (5)

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