MANIPAL ACADEMY OF HIGHER EDUCATION

MPharm Theory End-Semester Examinations.

Specialization: Pharmaceutics

MPharm Semester II - End Semester Examination May 2019

Subject Code: PCE-MPH203T
Subject Title: Computer Aided Drug Delivery Systems
Exam Date:06-05-2019

Computer Aided Drug Delivery Systems [PCE-MPH203T]

Marks: 75   Duration: 180 mins.

SECTION - A

nswer all the questions.

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

1)	Explain the Simplex method of optimization.	(10)
2)	Explain patents as an IPR tool for protection of innovative uses of computers.	(10)
3)	Describe parameter sensitive analysis, virtual trials, model construction and ACAT model with respect to computer aided biopharmaceutical characterisation of drugs.	(10)
4)	Explain various types of data collection systems employed in clinical development. List any two advantages.	(10)
5)	5A. How AI is the future of Pharma? (5 marks) 5B. What is the role of CFD in Pharmaceutical Industry? (5 marks)	(10)

SECTION - B

Answer all the questions.

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

6)	Write briefly on Statistical modelling in Pharmaceutical research and development.	(5)
7)	Discuss the levels of computer simulations in pharmacokinetics and pharmacodynamics.	(5)
8)	Write the steps of Quality by Design. Explain the role of ICH Q9 guideline in quality by design.	(5)
9)	Write about different computational approaches used in modelling the solubility of drugs.	(5)
10)	Discuss the factors to be considered and computational modelling techniques to study intestinal permeation.	(5)