BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: MPHARM   SEMESTER: IInd
BRANCH: PHARMACY   SESSION: SP 2024

SUBJECT: MPH203T COMPUTER AIDED DRUG DELIVERY(CADD)

TIME: 3.00 Hours   FULL MARK: 75
INSTRUCTIONS:
1. The missing data, if any, may be assumed suitably.
2. Before attempting the question paper, be sure that you have got the correct question paper.
3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
5. Answer any five questions.

1a.	Discuss importance of statistical modeling in pharmaceutical research. How descriptive and mechanistic modeling can be used for this purpose?	[7]
1b.	Elaborate history and progress computer aided drug design in pharmaceutical R and D.	[8]
2a.	Explain with a case study "QbD application in pharmaceutical product development" elaborating components of QbD.	[7]
2b.	Describe in details factors affecting drug disposition.	[8]
3a.	Elaborate on active transporters and discuss any two transporters mediating drug transport.	[7]
3b.	Discuss in short factorial design and surface response methodology as experiment design approach.	[8]
4a.	What is the objective of optimization? Write optimization parameters for formulation development.	[7]
4b.	Explain the development of emulsions and microemulsions as drug carriers.	[8]
5a.	Write short notes on (i)MLP & (ii) GRNN	[7]
5b.	Elaborate the dynamic neural network in details	[8]
6a.	Discuss the importance of AI in biomedical applications	[7]
6b.	Discuss the following terms:	[8]

     i.   Independent & Dependent Variable
     ii.   Factor
     iii.   Level
     iv.   Response

7a.	Discuss the ACAT model for gastrointestinal absorption simulation.	[7]
7b.	Discuss the Importance of Fed Vs. Fasted state in interpreting via Gastroplus software & Invitro dissolution with Invio-invitro correlation.	[8]

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