MASTER OF PHARMACY (M. PHARM.) (CBCS-2019 COURSE)
M.Pharm. Sem-II : SUMMER : 2022
SUBJECT : COMPUTER AIDED DRUG DELIVERY DEVELOPMENT

Day : Monday | Time : 10:00 AM-01:00 PM
Date : 9/5/2022 | **S-20785-2022** | Max. Marks : 75

N. B. :

1) **Q. No. 1** and **Q. No. 5** are **COMPULSORY**. Out of the remaining answer **ANY TWO** question from each Section.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in **SEPARATE** answer books.

SECTION – I

Q. 1 How patents can be applied in legal protection of innovative uses of computers in R & D? **(08)**

Q. 2 Discuss application of computer-aided techniques in development of micro-emulsion drug carriers. **(15)**

Q. 3 Answer the following: **(15)**

a) Discuss the good practices for pharmaceutical product development (ICH Q8 guideline).
b) What is optimization in formulation development? Discuss technology and parameters involved in it.
c) How computational modeling of drug absorption is carried out?

Q. 4 Write notes on **ANY TWO** of the following: **(15)**

a) Privacy related ethics of computing in pharmaceutical research.
b) History of computers in pharma R & D.
c) Sensitivity analysis in statistical modeling.

SECTION – II

Q. 5 Which processes are involved after clinical data collection? **(07)**

Q. 6 Discuss electronic-based clinical data collection and data management systems. **(15)**

Q. 7 Answer the following: **(15)**

a) Describe computer simulations of the cell (level 3 under pharmacokinetics and pharmacodynamics).
b) What is gastrointestinal absorption simulation?
c) What are the applications of artificial intelligence in health care and pharmaceuticals?

Q. 8 Write notes on **ANY TWO** of the following: **(15)**

a) In-vitro dissolution and in-vitro in-vivo correlation (IVIVC) in gastrointestinal absorption simulation.
b) Hybrid clinical data collection and data management systems.
c) Fed versus fasted state in gastrointestinal absorption simulation.

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