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

Day : Monday | Time : 10:00 AM-01:00 PM

Date : 19-09-2022 | **S-20785-2022** | Max. Marks : 75

N.B.

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

SECTION – I

Q.1 Explain factorial design and screening design. **(08)**

Q.2 What are the applications of computer – aided techniques in development of emulsions as carriers for drug delivery? **(15)**

Q.3 **i)** Explain computational modeling of drug transport by nucleoside transporters and by organic cation transporters. **(15)**
ii) Describe quality-by-design in pharmaceutical product development.
iii) How trade-secrets and copyright are applied in legal protection of computer uses?

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

a) Confidence regions
b) Mechanistic versus descriptive modeling
c) Computational modeling of drug distribution

SECTION – II

Q.5 What are the diverse ways of communication in clinical trial data collection and management? **(07)**

Q.6 Explain the construction of model in simulation of gastrointestinal absorption. **(15)**

Q.7 **i)** Explain virtual trial in gastrointestinal absorption simulation. **(15)**
ii) Describe employment of artificial intelligence in pharmaceuticals and health care.
iii) What is computational fluid dynamics? Discuss its applications to unit operations in pharma industry.

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

a) Pure paper-based clinical data collection and management systems
b) Process of acquiring proprietary e-clinical software from vendors
c) Computer simulation of the whole organism (level 1 under PKPD)

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