PAPER ID-421255

Subject Code: MPH203T

Roll No: | | | | | | | | | | | | | |

MPHARM

(SEM II) THEORY EXAMINATION 2021-22

COMPUTER AIDED DRUG DELIVERY SYSTEM

Time: 3 Hours ***Total Marks: 75***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 10 x 2 = 20

a.	Define 'population modeling'.
b.	Cite examples (minimum two) of the application of scientifically based QbD.
c.	Mention the role of the nucleoside transporters in computational modeling.
d.	Mention the functions of the BBB-choline transporters.
e.	Name the optimization parameters.
f.	Mention the significance of carrying out factorial design.
g.	What do you mean by 'biowaiver considerations'?
h.	Mention the principle of 'parameter sensitivity analysis'.
i.	Define the various parameters of Computational Fluid Dynamics.
j.	Mention the key roles of artificial intelligence in the future directions of pharmaceutical automation.

SECTION B

2. Attempt any *two* parts of the following: 2 x 10 = 20

a.	Describe the regulatory and industry views on QbD.
b.	Explain with diagram the various stages of *in vitro – in vivo* correlation (IVIVC).
c.	Describe the advantages, disadvantages and applications of artificial intelligence and robotics in pharmaceutical automation.

SECTION C

3. Attempt any *five* parts of the following: 7 x 5 = 35

a.	Write a brief note on 'descriptive versus mechanistic modeling'.
b.	Explain the role of BCRP transporters in computational modeling of drug disposition.
c.	Explain the ethics of computing in pharmaceutical research.
d.	Explain the role of computers in clinical development.
e.	Describe the various aspects of Computational Fluid Dynamics.
f.	Elaborate the role of computers in the simulation of whole organism and isolated tissues.
g.	Write down the applications of computers in market analysis.