

M PHARM
(SEM II) THEORY EXAMINATION 2022-23
COMPUTER AIDED DRUG DELIVERY SYSTEM

Time: 3 Hours**Total Marks: 75****Note:** 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 QbD.
- (b) What do you mean by optimal design?
- (c) Mention role of P-gp efflux transporter in drug disposition.
- (d) What are nucleoside transporters?
- (e) Define factorial design.
- (f) What are screening designs?
- (g) What do you mean by in vitro and in vivo correlation?
- (h) Define clinical data collection.
- (i) Mention two applications of robotics in drug delivery.
- (j) Define pharmaceutical automation.

SECTION B

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

- (a) Write an exhaustive note on history of computers in Pharmaceutical Research and Development.
- (b) What do you mean by modeling? Elaborate computational modeling of drug disposition.
- (c) Elaborate on Computer simulation in whole organism and isolated tissues.

SECTION C

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

- (a) Write a brief note on ICH Q8 guidelines.
- (b) Discuss modelling techniques for absorption and solubility.
- (c) Explain the applications of factorial design in development of pharmaceutical emulsion.
- (d) Discuss ethics of computing in pharmaceutical research.
- (e) Discuss in brief about biowaiver considerations in in-vivo studies.
- (f) Give the future aspects of artificial intelligence in pharmaceutical industry.
- (g) Write a note on Computational fluid dynamics.