BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – M.Pharm(Pharmaceutics)-2024/M.Pharm(Pharmaceutics)-2025
Course Name – Computer Aided Drug Development
Course Code - MPH203T
(Semester II)

Full Marks : 75 **Time : 3:0 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Short Answer Type Questions) 5 x 5=25

1. How does protein binding affect drug distribution in plasma? (5)
2. Explain what role do computational tools play in the design and optimization of clinical trials. (5)

3. Explain the differences between descriptive and mechanistic modeling. (5)
4. Explain on the requirement of optimization. (5)
5. Explain how the computer-aided drug design (CADD) techniques revolutionized the process of drug discovery. (5)

OR

Brief on the importance of ICHQ8 in pharmaceutical formulation. (5)

Group-B
(Long Answer Type Questions) 10 x 5=50

6. Describe how do OATP transporters contribute to the uptake and elimination of endogenous compounds such as bilirubin, hormones, and drugs. (10)

7. Recall the significance of screening methods in drug development. (10)
8. Explain some challenges and limitations associated with computer simulation in pharmacodynamics, and how are researchers addressing these issues. (10)

9. Explain the role of computer simulation in pharmacokinetics, and how does it contribute to drug development and optimization. (10)

OR

Explain the advantages and limitations of compartmental modeling versus physiologically-based modeling in pharmacokinetic simulations. (10)

10. Explain the challenges and limitations associated with computer-aided bio-pharmaceutical characterization. (10)

OR

Explain how the computer-aided approaches predict pharmacokinetic parameters such as drug absorption, distribution, metabolism, and excretion (ADME). (10)

****