

QP CODE: 213328

Reg. No:.....

**Second Semester M. Pharm Degree Regular/Supplementary Examinations
November 2025**

M.Pharm (Pharmacology)

Paper III: Principles of Drug Discovery (MPL 203T)

(Common for 2019 and 2024 Scheme)

Time: 3 Hours

Total Marks: 75

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Essays

(3x10=30)

1. Discuss the application of NMR and X-ray crystallography in protein structure prediction.
2. Elaborate on the computational methods for protein structure prediction and its application in drug design.
3. Explain the Comparative Molecular Field Analysis (CoMFA) and Comparative Molecular Similarity Index Analysis (CoMSIA).

Short Notes

(9x5=45)

4. Describe physicochemical parameters, Hansch analysis, Free Wilson analysis and their relationship.
5. Discuss the quantitative analysis of Structure Activity Relationship.
6. Compare the rigid, flexible and manual docking techniques.
7. Appraise the role of zinc finger proteins in target identification and validation.
8. Outline the significance of Genomics, Proteomics and Bioinformatics in target discovery and validation.
9. Illustrate the principle involved in design of pro-drug.
10. Explain siRNA (small interfering RNA).
11. Discuss the structure and pharmacophore-based approaches in rational drug design.
12. Outline the difference between SAR and QSAR.
