

**Second Semester M. Pharm Degree Supplementary Examinations  
February 2025**

**M.Pharm (Pharmacology)**

**Paper III: Principles of Drug Discovery (MPL 203T)**  
**(Common for 2017 and 2019 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. Explain protein structure and discuss the experimental methods employed to decipher domains, motifs and folds in protein structure.
2. Discuss the current approaches employed in the drug discovery process emphasizing target identification, target validation, lead identification and lead optimization.
3. Elaborate the role of drug design in the drug discovery process and add a note on virtual screening techniques.

**Short Notes**

**(9x5=45)**

4. Compare and contrast traditional and rational drug design approaches.
5. Discuss the economics of drug discovery.
6. Explain reporter gene assay.
7. Illustrate the role of transgenic animals in target validation.
8. Appraise drug likeness screening.
9. Summarize the concept of pharmacophore mapping and pharmacophore-based approaches.
10. Describe the role of bioinformatics in drug discovery.
11. Outline the significance of Prodrug design.
12. Explain *De Novo* drug design.

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