

QP CODE: 114328

Reg. No:.....

**First Semester M.Pharm Degree Regular/Supplementary Examinations
June 2024**

M.Pharm (Pharmacology)

**Paper IV – Cellular and Molecular Pharmacology (MPL 104T)
(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. Discuss in detail the various processes of cell death. Explain the apoptotic pathways.
2. Discuss in detail the JAK – STAT signaling pathway.
3. Explain in detail about various gene transfer technologies.

Short Notes

(9x5=45)

4. What is a lipid bilayer. Give the chemical composition of the lipid bilayer.
5. Write briefly on metabolomics.
6. Write in detail about advantages and limitations of immunotherapeutics.
7. Explain the principle, procedure and applications of MTT assay.
8. Gene sequencing techniques.
9. Explain in detail about polymorphisms affecting drug metabolism.
10. What is meant by necrosis. How does it induce the inflammatory degenerative cascade.
11. Viral vector.
12. Write the purpose and limitations of cryopreservation.
