

QP CODE: 114328

Reg. No:.....

**First Semester M.Pharm Degree Supplementary Examinations
January 2021
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. Explain the intrinsic and extrinsic pathways of apoptosis
2. Explain cyclic AMP and MAPK signaling pathways
3. Explain the principles and applications of recombinant DNA technology

Short Notes

(9x5=45)

4. Describe the working principle of PCR
5. Gene mapping and sequencing
6. Explain how polymorphism affects drug metabolism
7. The applications of genomics and proteomics
8. Explain the working principle of flow cytometry
9. Explain the importance and procedure of cryopreservation
10. Humanization of antibody therapy
11. Ligand gated ion channels
12. Explain the various gene transfer methods.
