

Sl.No: M21141

Course Code: MPL104T

**VINAYAKA MISSION'S RESEARCH FOUNDATION
(DEEMED TO BE UNIVERSITY), SALEM**

**M.PHARM. DEGREE EXAMINATION – September 2021
First Semester**

BRANCH: PHARMACOLOGY

CELLULAR AND MOLECULAR PHARMACOLOGY

Time : Three hours

Maximum: 75 marks

**(Draw neat labeled diagrams wherever necessary
your answer should be specific to the questions asked)**

SECTION –A

I. Answer any **THREE** questions: **(3 x 15 = 45)**

1. What are second messengers? Give examples. Explain the function of the following substances in intracellular cell signaling. i) NO ii) Cyclic GMP
2. List out various types cell culture including general producer for any three cell cultures.
3. Classify receptors and discuss molecular structure of ligand gated ion channels.
4. Explain the clinic application and recent advances in gene therapy.

SECTION –B

II. Answer any **THREE** questions: **(3 x 10 = 30)**

5. ELISA and PCR.
6. Principles and application of cell viability assay.
7. Necrosis and autophagy.
8. Polymorphisms affecting drug metabolism.
