



PAPER CODE: 19

Roll No: [] [] [] [] [] [] [] [] [] []

MPIARM
(SEM I) THEORY EXAMINATION 2021-22
CELLULAR AND MOLECULAR PHARMACOLOGY

Time: 3 Hours

Total Marks: 75

Note: 1. Attempt all Sections. If require any missing data, then choose suitably

SECTION A

10 x 2 = 20

1. Attempt all questions in brief.
 - a. Describe Autophagy.
 - b. Discuss the role of Cytochrome c and CASPASEs in apoptotic pathways.
 - c. Explain the events activated during MAPK signaling.
 - d. Describe the different types of Vectors.
 - e. Elaborate the principle of DNA Microarray.
 - f. Illustrate the role of Restriction enzymes.
 - g. Describe the technique of Gene sequencing in brief.
 - h. Explain the process of Cryopreservation of cells.
 - i. Elaborate the role of trypsin in cell subculturing.
 - j. Describe the utility of Biosimilars.

SECTION B

2 x 10 = 20

2. Attempt any twoparts of the following:
 - a. Illustrate the intrinsic and extrinsic pathways of Apoptosis.
 - b. Sketch the signal transduction process of GPCR.
 - c. Write in detail the principle and applications of Flow cytometry.

SECTION C

7 x 5 = 35

3. Attempt any fiveparts of the following:
 - a. Explain the events of Cell cycle
 - b. Describe the JAK-STAT signaling pathway.
 - c. Explain the principle and outcomes of Recombinant DNA Technology.
 - d. Demonstrate the concept of metabolomics and genomics.
 - e. Explain how genetic polymorphism affects drug metabolism.
 - f. Interpret the technique of Immunotherapeutics and humanization of antibody
 - g. Describe Cell viability assays putting special emphasis on Luciferase assay