

PARUL UNIVERSITY
FACULTY OF PHARMACY
M. Pharm. Winter 2022 - 23 Examination

Semester: 1**Subject Code: MPL104T****Subject Name: Cellular and Molecular Pharmacology****Date: 20/03/2023****Time: 10:00am to 1:00pm****Total Marks: 75****Instructions:**

1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay Type Questions. (any 2 out of 3) (15 Marks Each) (30)

1. What is Polymerase chain reaction? Explain its types and applications.
2. Write a note on apoptosis. Give comparative account of the types of receptors.
3. Write detailed notes on "Flow cytometry" and "Humanized antibodies as therapeutics".

Q.2 Short Essay Type Questions. (any 5 out of 6) (5 Marks Each) (25)

1. Define cell cycle. Discuss the events of cell cycle in brief.
2. Give examples of intracellular signaling pathways. Explain any one pathway in detail.
3. Discuss the technique and applications of western blotting.
4. Explain gene polymorphisms and their possible effects on metabolism of drugs with examples.
5. Explain the principle and applications MTT assay.
6. Write a note on cyclic AMP as Secondary messenger.

Q.3 Short Answers. (2 Marks Each) (20)

1. Give a short explanation of the genome organization.
2. Describe the applications of siRNA.
3. Write a note on Caspases.
4. Explain types and functions of G proteins.
5. What are the clinical applications of gene therapy?
6. Explain principle of recombinant DNA technology.
7. Present a brief note on gene mapping.
8. Write a note on proteomics.
9. Which are the two types of eukaryotic cell culture techniques?
10. Write in brief about biosimilars.