

PARUL UNIVERSITY
FACULTY OF PHARMACY
M.Pharm. Winter 2017-18 Examination

Semester: 1
Subject Code: MPL104T
Subject Name: Cellular and Molecular Pharmacology

Date: 16/01/2018
Time: 10.00 am to 1.00 pm
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 Mark Each) (30)

1. Write a short note on G protein coupled receptors. Discuss in detail Janus kinase/Signal transducer and activator of transcription signaling pathway.
2. Define autophagy. Write a note on intrinsic and extrinsic pathways of apoptosis. What are the difference between apoptosis and necrosis?
3. Discuss basic principles of recombinant DNA technology and its application. Write a note on gene therapy.

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

1. Discuss in detail reverse transcriptase polymerase chain reaction.
2. Give various type of blotting techniques. Write a note on western blotting technique.
3. Discuss in brief applications of proteomics science.
4. Write a short note on tyrosine kinase receptors.
5. What is Operon concept? Write a note on Lactose Operon.
6. What are various types of cell culture? Explain principles and applications of cell viability assays.

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

1. What is role of IP₃ and diacylglycerol?
2. Define Genomics and nutrigenomics.
3. Discuss application of flow cytometry.
4. Give a name of various types of vectors.
5. Explain sanger's dideoxynucleotide chain termination method.
6. What is important of siRNA and micro RNA?
7. Explain role of immunotherapeutic in clinical practice.
8. What is Gene cloning? Give its importance.
9. What is the difference between ligand gated ion channel and nuclear receptors?
10. Explain genetic variation in drug transports.