Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.PHARM - SEMESTER–1 EXAMINATION – SUMMER-2019

Subject Code: MPL104T Date: 04/06/2019

Subject Name: Cellular and Molecular Pharmacology

Time: 02:30 PM TO 05:30 PM Total Marks: 80

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Describe intrinsic and extrinsic pathways of apoptosis.	**06**
	(b)	Explain impact of oxidative stress as one of the mechanism of neuronal death.	**05**
	(c)	Explain JAK-STAT pathway.	**05**
Q.2	**(a)**	Explain Structure and functions of cell and its organelles.	**06**
	(b)	Write a note on Principles and applications of cell viability assays.	**05**
	(c)	Classify and elaborate different types of receptors with suitable examples.	**05**
Q.3	**(a)**	Explain various types of cell culture.	**06**
	(b)	Discuss signal transduction mechanisms by G Protein - coupled receptor (GPCR).	**05**
	(c)	Give general procedure for cell cultures.	**05**
Q.4	**(a)**	Write a note on gene therapy.	**06**
	(b)	Write a note on Enzyme Linked Immuno Sorbent Assay (ELISA).	**05**
	(c)	What is necrosis? How it differs from apoptosis?	**05**
Q.5	**(a)**	Write a note on gene mapping and sequencing.	**06**
	(b)	Explain impact of oxidative stress as one of the mechanism of neuronal death.	**05**
	(c)	Write a note on Recombinant DNA technology.	**05**
Q. 6	**(a)**	Define the term: Genomics, Proteomics, Metabolomics, Functionomics, Nutrigenomics and Immunotherapeutics.	**06**
	(b)	Explain Cell cycle.	**05**
	(c)	Write a note on humanisation antibody therapy.	**05**
Q.7	**(a)**	Write a note on Principles and applications of flow cytometry.	**06**
	(b)	Write a note on mitogen-activated protein kinase (MAPK) signaling.	**05**
	(c)	Explain Biosimilars.	**05**

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