Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharmacy Sem-I Examination January 2010

Subject code:910103
Subject Name: Cellular & Molecular Pharmacology

Date: 23 / 01 / 2010 **Time: 12.00 – 3.00 pm**

Instructions: **Total Marks: 80**

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

Q.1	**(a)**	Explain various routes by which small molecules cross cell membranes. Write a note on carrier-mediated transport mechanism.	**06**
	(b)	Classify different types of drug antagonism. Write a note on antagonism by receptor block.	**05**
	(c)	Write a note on radio ligand binding studies.	**05**
Q.2	**(a)**	Classify and elaborate different types of receptors with suitable examples.	**06**
	(b)	Discuss signal transduction mechanisms by GPCR.	**05**
	(c)	What are cytokines? Discuss their actions and role in inflammation.	**05**
Q.3	**(a)**	Discuss muscarinic receptors and their subtypes with reference to their location, cellular and functional response.	**06**
	(b)	Discuss signaling pathways that result in apoptosis.	**05**
	(c)	Discuss the impact of receptor mal function in pharmacotherapeutics	**05**
Q.4	**(a)**	Write a note on pharmacology of potassium channels.	**06**
	(b)	Write a note on GABA receptors with suitable agonists and antagonists.	**05**
	(c)	Write a note on gene therapy.	**05**
Q.5	**(a)**	Give an account of 5-HT receptors in the CNS.	**06**
	(b)	Write pharmacology of purines.	**05**
	(c)	Discuss the role of NO in various physiological functions.	**05**
Q.6	**(a)**	Write a note on NMDA receptors suitable agonists and antagonists.	**06**
	(b)	Write pharmacology of calcium channels and their modulators.	**05**
	(c)	Dwell upon dopaminergic pathways and their functions.	**05**
Q.7	**(a)**	Explain impact of oxidative stress as one of the mechanism of neuronal death.	**06**
	(b)	Write pharmacological classification of adrenoceptors and their effects.	**05**
	(c)	What are leucotrines? Explain their role in inflammation.	**05**

****