Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
M. Pharm. - SEMESTER– I • EXAMINATION – WINTER-2015

Subject Code:910103 **Date:27/05/2016**
Subject Name: Cellular and Molecular Pharmacology
Time: 10:30 AM to 1:30 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)**	Classify the receptors for the following giving emphasis on signal transduction mechanisms and suitable examples of its agonist and antagonist. i)Adrenergic ii)Serotonin	**06**
	(b)	Describe structural characteristics of GPCR.	**05**
	(c)	Describe the types and functions of potassium channels.	**05**
Q.2	**(a)**	Describe synthesis of histamine. Discuss its physiological and pathological role.	**06**
	(b)	Describe the role of GABA in CNS physiology. Elaborate the drugs acting via GABA pathway with their clinical application.	**05**
	(c)	Explain the role of nitric oxide in various physiological functions.	**05**
Q.3	**(a)**	Describe various types, characteristics, location and function of calcium channels giving suitable examples of drugs.	**06**
	(b)	Explain the importance of Radio-ligand binding studies.	**05**
	(c)	Classify dopamine receptors. Discuss in brief about their location and signal transduction mechanism.	**05**
Q.4	**(a)**	Enlist various transport mechanism across cell membrane. Explain in detail facilitated, diffusion and carrier mediated transport.	**06**
	(b)	What is drug antagonism? Explain all types of drug antagonism citing suitable examples.	**05**
	(c)	Write a short note on endothelin.	**05**
Q.5	**(a)**	Describe the principle mechanisms involved in a number of disease state directly linked to receptor malfunction.	**06**
	(b)	Explain role of Interferons and Adhesion molecules in various immunological and inflammatory disorders.	**05**
	(c)	Enlist excitatory neurotransmitters. Write a note on NMDA receptors.	**05**
Q. 6	**(a)**	Explain the importance of Dose-Response Curve giving suitable examples.	**06**
	(b)	Explain neuromuscular junction at molecular level.	**05**
	(c)	Write a short note on Cytokines.	**05**
Q.7	**(a)**	What is gene therapy? Write its therapeutic uses in detail.	**06**
	(b)	Describe in detail the two main signaling pathways in apoptosis.	**05**
	(c)	Write a short note on PAF.	**05**

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