Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharm. – SEMESTER – I • EXAMINATION – WINTER • 2015

Subject Code: 910103 **Date: 31-12-2015**

Subject Name: Cellular and Molecular Pharmacology

Time: 10:30 am - 01:30 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)**	Enumerate different processes of transport across cell membrane with suitable examples. Write in brief about ABC transporters.	**06**
	(b)	Write a note on Dose response relationship.	**05**
	(c)	Describe ion channel linked receptors with a suitable example.	**05**
Q.2	**(a)**	Explain different types of antagonism with suitable examples.	**06**
	(b)	Explain agonist, partial agonist, antagonist and inverse agonist using two state model.	**05**
	(c)	Elucidate different types of GABA receptors in light of their location, signal transduction and ligands acting on them.	**05**
Q.3	**(a)**	Classify adrenergic receptors highlighting the signal transduction mechanism. Write in brief about β arrestin.	**06**
	(b)	Describe structure of Voltage gated Sodium channel. Explain its gating mechanism.	**05**
	(c)	Enumerate different types of potassium channels. Discuss the pharmacological role of ATP sensitive K^+ channels.	**05**
Q.4	**(a)**	Classify serotonergic receptors and list out agonists and antagonists acting on them.	**06**
	(b)	Write a note on Radioligand binding studies.	**05**
	(c)	What are EDRF and EDHF? Discuss the biosynthesis and role of NO in Angina and Hypertension.	**05**
Q.5	**(a)**	Discuss the different delivery systems used in gene therapy.	**06**
	(b)	Describe the theories of drug interaction.	**05**
	(c)	Write a note on Endothelin receptors.	**05**
Q. 6	**(a)**	Explain the following (any three): 1. Potency 2. Efficacy 3. Tachyphylaxis 4. Time synergism.	**06**
	(b)	Explain the role of G-proteins in signal transduction. Also describe the mechanisms for desensitization in GPCRs.	**05**
	(c)	Enumerate various mediators obtained from eicosanoids. Describe in brief the physiological role of Prostaglandins.	**05**
Q.7	**(a)**	Discuss in brief the pathophysiology and therapeutic approaches to Alzheimer's disease.	**06**
	(b)	Explain in brief the different pathways involved in Apoptosis.	**05**
	(c)	Explain the role of TNFα in various disorders giving examples of drugs acting through it.	**05**

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