## Seat No.: \_\_\_\_\_ Enrolment No.\_\_\_\_\_ GUJARAT TECHNOLOGICAL UNIVERSITY M. PHARM. - SEMESTER – I • EXAMINATION – WINTER 2012

Subject code: 910103 Date: 09/01/2013				
Subj	Subject Name: Cellular and Molecular Pharmacology			
Time: 10.30 am - 01.30 pm Total Marks: 80				
Insti	ucti	ons:		
	1.	Attempt any five questions.		
	<b>2.</b> 1	Make suitable assumptions wherever necessary.		
	3. ]	Figures to the right indicate full marks.		
Q.1	(a)	Describe molecular structure, composition and functions of biological	06	
	(b)	membrane Describe the role of GADA in CNS physiclogy. Elaborate the drugs acting via	05	
	(0)	GABA pathway with their clinical application	05	
	(c)	Explain the adaptive cellular and molecular responses in brain ageing and enlist	05	
	(0)	the antiageing drugs	00	
Q.2	(a)	Describe the following terminologies using dose response curve.	06	
	()	(i) Drug selectivity (ii) Risk-benefit ratio (iii) Drug potency		
	(b)	Write short note on Purines	05	
	(c)	Explain Single nucleotide polymorphism and its importance in gene therapy	05	
Q.3	(a)	What are molecular switches and describe their role in signal transduction	06	
		pathway giving suitable examples.		
	(b)	Describe in detail the two main signaling pathways in apoptosis	05	
	(c)	Differentiate between:	05	
		1) Nuclear receptor and tyrosine kinase receptor		
0.4	(a)	11) Ligand gated ion channel and voltage gated ion channel	06	
Q.4	(a)	transduction	UO	
	(h)	Describe recentor theory applying law of mass action	05	
	(0)	Write short note on radio ligand hinding studies	05	
0.5	(a)	What are the important characteristics of the following transport mechanism:	06	
		(i) Active transport (ii) Passive transport (iii) Carrier mediated transport		
	(b)	Describe the role of TNF- $\alpha$ in the in the various immunological and	05	
		inflammatory disorders.		
	(c)	Classify the Adrenergic receptors, and describe their signal transduction	05	
		mechanism citing suitable examples as agonist and antagonist and their		
		functional role.		
Q. 6	(a)	Describe the following concepts giving suitable examples :	06	
	(1)	(1) Inverse agonist (11) Efficacy (111) Desensitization	07	
	$(\mathbf{b})$	Describe the physiological role of various types of calcium channels.	05	
	$(\mathbf{c})$	Explain giving examples of various diseases resulting from recentor	05	
Q./	(a)	malfunction involving mutations in genes encoding recentors and protein	UU	
		involved in signal transduction.		
	(b)	Classify Dopamininergic agonists and antagonists with examples. Write their	05	
	(-)	molecular mechanism in detail.		
	(c)	Briefly describe the effect of enzymes on drug action	05	

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