Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY
B. PHARM (SEMESTER-8) SUMMER-2015

Subject code: 280003 **Date: 02/05/2015**
Subject Name: Pharmaceutical Chemistry X (Medicinal Chemistry IV)
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 cardiotonics giving mechanism of action of each class along with structure of one drug from each of the class.	**06**
	(b)	Discuss steric requirements and SAR of cardiac glycosides.	**05**
	(c)	Give structure and synthesis of (i) dobutamine (ii) lignocaine	**05**
Q.2	(a)	Classify antiarrythmics. Give electrophysiological mechanism of each class along with structure of one drug from each of the class.	**06**
	(b)	Write a brief note on organic nitrates' importance as antianginals with special emphasis on their mechanism and role of pharmacokinetics in their utility.	**05**
	(c)	Write in brief about (i) Antiplatelets (ii) Thrombolytics	**05**
Q.3	(a)	Classify antihypertensives giving mechanism of each class along with structure of important drugs from different classes.	**06**
	(b)	Discuss SAR of (i) Dihydropyridines (ii) ACE inhibitors	**05**
	(c)	Give structure and synthesis of (i) Nifedipine (ii) Hydralazine	**05**
Q.4	(a)	Classify diuretics giving mechanism and structure of one drug from each class.	**06**
	(b)	Discuss SAR of (i) Thiazides (ii) HMGCoA reductase inhibitors	**05**
	(c)	Give structure and synthesis of (i) Hydrachlorothiazide (ii) Furosemide	**05**
Q.5	(a)	Classify antihyperlipidemics giving mechanism of action of each class and structure of important drugs from different classes.	**06**
	(b)	Write in brief about (i) Coagulants (ii) Anticoagulants	**05**
	(c)	Give structure and synthesis of (i) Clofibrate (ii) Warfarin	**05**
Q. 6	(a)	Define QSAR and explain physicochemical properties used in QSAR methods.	**06**
	(b)	Describe pooling strategies used in combinatorial chemistry.	**05**
	(c)	Explain solid support synthesis and supports used in same.	**05**
Q.7	(a)	Explain Free Wilson analysis, its advantages and disadvantages.	**06**
	(b)	Define and explain molecular-modeling with special emphasis on quantum mechanics.	**05**
	(c)	Write in brief about Computer Assisted Drug Design.	**05**

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