Seat No.:	Enrolment No.
Jeal 110	Linoinent 110.

Subject Code: 163601

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI • EXAMINATION - SUMMER • 2014

Date: 26-05-2014

Tim	-	Name: Medicinal Chemistry 0:30 am - 01:00 pm Total Marks: 70	
		Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	(i). What are basal anaesthetics? Write the synthesis of one example belonging to this	04
		category with its structure. (ii).How are local anaesthetics different from general anaesthetics. Give one example of local anaesthetic and write the synthesis of the same.	03
	(b)	(i). Write the synthesis of Antiparkinson drug Levo dopa with brief description.(ii). Write its metabolism and mechanism of action.	04 03
Q.2	(a)	(i).Differentiate between Pharmacokinetics and Pharmacodynamics? Explain the different mechanisms of drug action.(ii). Define G-protein coupled receptors? Explain its mechanism of action with diagram.	04 03
	(b)	(i). Give one example with structure each of (a). Second generation non sedating Antihistamine, (b). Phenothiazine derivative antihistamine.(ii). Write the SAR (Structure Activity Relationship) of H1-receptor antagonists.	03 04
	(b)	OR (i).Write the synthesis of Antipsychotic drug Chlorpromazine with brief description. Write its mechanism of action. (ii). Write the SAR(Structure Activity Relationship) of Phenothiazine class of Antipshychotic drug	05 02
Q.3	(a)	(i). What are Antilipidaemic agents. Write the synthesis with brief description of one Fibric acid derivative class of Antilipidaemic agent .(ii). Write the metabolism and mechanism of action of the above antilipidaemic drug.	04 03
	(b)	(i). What do you mean by cholinergic drugs? Write the mechanism of action.(ii). Write the SAR of cholinergic drugs and give example of the same with its structure.	03 04
Q.3	(a)	OR (i). What are Anticoagulant drugs.? Give one example with structure of one in vivo anticoagulant and write its mechanism of action. (ii). Write a brief note on Thrombolytic drug with one example. Write its mechanism of	03 02
		action. (iii). Write a brief note on Antiplatelet drug with one example. Write its mechanism of action.	02
	(b)	(i). Explain the concept of enzymes. What is their role in pharmacodynamics? Give two relevant examples.(ii). Draw the -Dose-response curve of any drug indicating the three different	03
		parameters: i. ED_{50} ii. LD_{50} iii. Therapeutic index.	04

Q.4	(a)	(i). What is an Anticonvulsant drug. Write the synthesis of anticonvulsant drug Phenobarbital.	04
		(ii). Write its mechanism of action of Phenobarbital and its use.	03
	(b).	(i). Define: (a). Intrinsic activity .(b). Efficacy. (c). Inverse agonist. (d). Antagonist	04
		(ii). Explain any three theories which explain drug-receptor interaction.	03
		OR	
Q.4	(a)	(i). What is an Antiarrhythmic drug. What are its classifications with one example each.	03
		(ii). Write the synthesis of any one Antihypertensive drug with brief description. Write the mechanism of its action.	04
	(b)	(i). Write the synthesis of any one Salicylic acid derivative analgesics with brief description.	03
		(ii). Write the SAR of the above analgesic. Write its mechanism of action & metabolism.	04
Q.5	(a)	(i). What do you mean by enzyme inhibition. Explain the different types. Give details.(ii). Differentiate between competitive and non-competitive enzyme inhibition.	04
		(i). What is Combinatorial Chemistry and mention its principles?	03
	(b)	(ii). Give a brief note on computer aided drug design mentioning the role of Bioinformatics Hub and the advantage of CADD (Computer Aided Drug Designing).	03
		OR	04
		(i). Write the method of action of Proton Pump inhibitor class Anti ulcer drugs. Write one example of this class with structure.	04
Q.5	(a)	(ii). Write a brief note on Antacid with one example. Write its mechanism of action and uses.	03
		(i). What are Acidotic Diuretics. Write one example and its mechanism of action.	03
	(b)	(ii). Write the mechanism of action of Carbonic anhydrase inhibitor class of diuretics. Give one example with structure of Carbonic anhydrase inhibitor class of diuretics	04
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