

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER– IV(NEW) EXAMINATION – SUMMER 2015**

**Subject Code: 2143601****Date:01/06/2015****Subject Name: Medicinal Chemistry & Physio-Pharmacology****Time: 10:30am-1.00pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Draw a neat structure of kidney? write a note on kidney functions **07**  
 (b) Write a note on function of human digestive system **07**
- Q.2** (a) Briefly explain 'Early Safety Tests' **07**  
 (b) Explain Lipinski's rule of 5 **07**
- OR**
- (b) Explain in detail how drugs work? **07**
- Q.3** (a) Draw a neat structure of Nephron? Classify the Diuretic agents with examples of drugs? **07**  
 (b) Write a detailed description on different routes of drug administration **07**
- OR**
- Q.3** (a) What are the antacids write different types of antacids? Explain the Mechanism of action **07**  
 (b) Define the local anaesthetics ? Classify the local anaesthetics according to their duration of action **07**
- Q.4** (a) Mention the blood coagulating factors? Write the MOA, side effects and clinical uses of coagulants ? **07**  
 (b) Write in detail description about the hematinics drugs? **07**
- OR**
- Q.4** (a) Write short account on the discovery of cimetidine **07**  
 (b) Explain with the help of two suitable examples how serendipity aids drug discovery **07**
- Q.5** (a) Explain the following: Pharmacophore, Receptor and Inverse Agonist **07**  
 (b) Give a comparative picture of different type of receptors. **07**
- OR**
- Q.5** (a) (i) Explain the following: Hits and Leads, Privileged Structure, Toxicophore **03**  
 (ii) Aspirin has a  $pK_a$  of 3.4. What is the ratio of  $A^-$  to HA in: (a) the blood (pH = 7.4) (b) the stomach (pH = 1.4) **04**  
 (b) Classify enzyme inhibitors and describe any one class. **07**

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