

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV(New) • EXAMINATION – WINTER 2016****Subject Code:2143601****Date:22/11/2016****Subject Name:Medicinal Chemistry & Physio-pharmacology****Time: 02:30 PM to 05:00 PM****Total Marks: 70****Instructions:**

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

- Q.1 Short Questions 14**
- 1 What are diuretics?
  - 2 Name the storage site of iron in liver
  - 3 What are the two forms of Diabetes Mellitus
  - 4 Define Immunopharmacology
  - 5 Write two oral iron formulation
  - 6 What is the functional unit of kidney
  - 7 Write any two functions of rennin-angiotensin pathway
  - 8 Write any two antihypertensive agents
  - 9 What is anemia?
  - 10 For what purpose the major portion of absorbed iron by the body is used for?
  - 11 Which is the functional respiratory unit in the lungs where gases are exchanged?
  - 12 What are the steps in urine formation
  - 13 Write the structure of Histamine
  - 14 Write two diseases of respiratory system.
- Q.2 (a) Write the SAR of Thiazide diuretics. 03**  
**(b) Write a short note on discovery of Cimetidine. 04**  
**(c) Explain the term “Bioisosterism” in detail. 07**
- OR**
- (c) Write a note on Serendipitous drug discovery in detail. 07**
- Q.3 (a) Write short note on isolation and storage of Insulin 03**  
**(b) What are symptoms of Diabetes Mellitus 04**  
**(c) Explain SAR of Thiazolidinediones 07**
- OR**
- Q.3 (a) Explain the SAR of antidiabetics- Sulphonyl Urea. 03**  
**(b) Differentiate between “Lente” & Ultralente” insulin. 04**  
**(c) Write Synthesis of Metformin, Glimepiride and Pioglitazone HCl 07**
- Q.4 (a) Briefly explain “early safety Tests” 03**  
**(b) Write the synthesis of any one antihypertensive drug with a brief note on the process. 04**  
**(c) Draw neatly labeled structures of Kidney & Nephron. Mention the functions of kidney. 07**
- OR**
- Q.4 (a) Mention the important roles the agents that modulate the immune system play. Classify the agents that modulate the immune system. 03**  
**(b) What is Hematinics? Explain the importance of iron in body. 04**  
**(c) Write the SAR amongst H1 receptor antagonist with suitable examples. 07**

- Q.5** (a) Write a note on (1). Antacids, (2). Thrombolytics **03**  
(b) Write a note on Loop & High ceiling class of diuretics. Give suitable examples with structures. **04**  
(c) Draw a neatly labeled structure of upper & lower human respiratory system. Write the functions of upper & lower respiratory tracts. **07**

**OR**

- Q.5** (a) Write synthesis of Glibenclamide. **03**  
(b) Explain "Lipinski rule of 5" **04**  
(c) Write the synthesis, mechanism of action and uses of any one aminoalkyl ether class of antihistamine. **07**

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