

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER – III • EXAMINATION – WINTER • 2014

Subject Code: 2230003

Date: 22-12-2014

Subject Name: Pharmaceutical Chemistry – III (Biochemistry I)

Time: 10:30 am - 01:30 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) Explain the process of Gluconeogenesis and special pathway involved in it. 06  
(b) Write a note on glycogen storage disease. 05  
(c) Describe Krebs-Hensleit cycle. 05
- Q.2 (a) Define Enzyme inhibition. Explain reversible and irreversible inhibition of enzyme. 06  
(b) Define Enzyme. Give the brief classification of enzymes with suitable examples. 05  
(c) Describe the various factors affecting the enzyme activity 05
- Q.3 (a) Define the following terms and state the importance of the same: 06  
1) Iodine number 2) Saponification number  
3) Acid number 4) Reichert Meissl number  
(b) Describe structure of cell membrane with diagram. 05  
(c) Write a note on followings (Any Two) 05  
1)  $\beta$ -oxidation of fatty acids  
2) Lipoproteins  
3) Energetics of glucose metabolism  
4) Transport Processes Across cell Membrane
- Q.4 (a) Define the terms Cofactors, Coenzyme, Apoenzyme, Prosthetic group and Holoenzyme giving suitable examples. 06  
(b) Describe Hexose Monophosphate Shunt and add a note on its significance. 05  
(c) Write a note on Genetic disorders of carbohydrate metabolism. 05
- Q.5 (a) What do you mean by ketone bodies? What is their biochemical significance? 06  
(b) Define Mutarotation and Epimer. Which test will you perform to detect the presence of reducing sugar? Explain the principle of the same test. 05  
(c) Write a note on followings (Any Two): 05  
1) Essential fatty acids and their biochemical functions.  
2) Water and mineral metabolism  
3) Biosynthesis of fatty acids.
- Q. 6 (a) Explain biochemical importance of cholesterol 06  
(b) Describe structures and functions of different Cell Organelles of Eukaryotic Cell. 05  
(c) Describe absorption, transport and storage of Iron in the body. 05
- Q.7 (a) Explain different mechanism to maintain physiological acid base balance in body. 06  
(b) Describe in detail about role of Hormones in maintenance of Blood Sugar Level 05  
(c) Write a short note on (Any Two) 05  
1) Facilitated Diffusion  
2) Mechanism of enzyme action  
3) Enzyme kinetics

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