

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) β -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
