

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Ph. - SEMESTER-III • EXAMINATION – WINTER -2020**

**Subject Code: 2230003****Date: 06/03/2021****Subject Name: PHARMACEUTICAL CHEMISTRY III (BIOCHEMISTRY I)****Time: 10:30AM TO 12:30PM****Total Marks: 54****Instructions:**

1. Attempt any **THREE** questions from Q-1 to Q-6.
2. **Q.7** is compulsory to attempt.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.

- |            |  |           |
|------------|--|-----------|
| <b>Q.1</b> | (a) Define and classify Carbohydrates with examples. Discuss functions of carbohydrates.             | <b>06</b> |
|            | (b) Write a note on mechanism of enzyme action.  | <b>05</b> |
|            | (c) Write a note on mechanism of transport process across cell membrane.                             | <b>05</b> |
| <b>Q.2</b> | (a) Write a note on properties of triacylglycerols.  | <b>06</b> |
|            | (b) Write a note on reactions of glycolysis. Give account of ATP generation in glycolysis.           | <b>05</b> |
|            | (c) Define co-enzymes. Write a note on the role of co-enzymes in enzyme action.                      | <b>05</b> |
| <b>Q.3</b> | (a) Write a note on beta oxidation of fatty acid. Add a note on its energetics.                      | <b>06</b> |
|            | (b) Define and Classify phospholipids. Discuss the functions of phospholipids.                       | <b>05</b> |
|            | (c) Write a note on glycogen storage disease.  | <b>05</b> |
| <b>Q.4</b> | (a) Describe biosynthesis and utilization of ketone bodies. Add a note on treatment of ketoacidosis. | <b>06</b> |
|            | (b) Explain the importance of Cori-cycle.  | <b>05</b> |
|            | (c) Give composition, distribution and functions of Hyaluronic acid and chondroitin sulfate.         | <b>05</b> |
| <b>Q.5</b> | (a) Discuss synthesis of glucose from non carbohydrate source.                                       | <b>06</b> |
|            | (b) Explain various parameters used to check the purity of fats and oils.                            | <b>05</b> |
|            | (c) Discuss biochemical functions of calcium.  | <b>05</b> |
| <b>Q.6</b> | (a) Discuss biosynthesis of cholesterol.   | <b>06</b> |
|            | (b) Describe the role of hormones in maintenance of blood sugar level.                               | <b>05</b> |
|            | (c) Write a detailed note on iso-enzymes.  | <b>05</b> |
| <b>Q.7</b> | (a) Describe the hexose monophosphate shunt and discuss its significance.                            | <b>06</b> |
|            | <b>OR</b>  |           |
|            | (a) Write a note on enzyme inhibition.   | <b>06</b> |
|            | <b>OR</b>  |           |
|            | (a) Write a note on regulation of fatty acid synthesis.  | <b>06</b> |

\*\*\*\*\*