

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

**Subject Code:BP303TP****Date: 03/03/2021****Subject Name: Biochemistry****Time: 02:30PM TO 04:30PM****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.

- Q.1** (a) Discuss Aerobic Glycolysis with energetic. **06**  
 (b) Discuss the Synthesis of Glucose from Non-Carbohydrate sources. **05**  
 (c) Write a note on citric acid cycle & explaining its amphibolic nature. **05**
- Q.2** (a) Discuss components and reactions of the electron transport chain. **06**  
 (b) Define oxidative phosphorylation and discuss inhibitors of oxidative phosphorylation. **05**  
 (c) Write a note on Glycogen Storage Disease. **05**
- Q.3** (a) What are carbohydrates? Give classification of carbohydrates with examples & function of it. **06**  
 (b) (1) Differentiate Saturated and Unsaturated Fatty Acids. **05**  
 (2) Define (i) Iodine number (ii) Saponification number (iii) Acid number  
 (c) Define bioenergetics and discuss concept of free energy. **05**
- Q.4** (a) Discuss  $\beta$ -oxidation of fatty acids. **06**  
 (b) What do you mean by ketone bodies? Discuss its formation and utilization. **05**  
 (c) Discuss in detail Cholesterol Biosynthesis. **05**
- Q.5** (a) Write in brief Genetic code. Add a note on various inhibitors for protein synthesis. **06**  
 (b) Define Enzyme. Give the brief classification of enzymes with suitable examples. **05**  
 (c) Define Enzyme inhibition. Explain reversible and irreversible inhibition of enzyme. **05**
- Q. 6** (a) Write about reaction of Krebs-Henseleit cycle and enlist disorders of the cycle. **06**  
 (b) Describe in detail transamination and deamination reactions for amino acids metabolism. **05**  
 (c) Write in brief about atherosclerosis and jaundice. **05**
- Q.7** (a) Discuss in detail about purine biosynthesis. **06**
- OR**
- (a) Discuss the Watson and Crick model of DNA structure. **06**
- OR**
- (a) Describe in brief DNA replication. **06**