

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph. - SEMESTER-III • EXAMINATION – WINTER -2019

Subject Code: BP303TP**Date: 19/11/2019****Subject Name: BIOCHEMISTRY****Time:10:30AM TO 01:30PM****Total Marks: 80****Instructions:**

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

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|-------------|-----|---|-----------|
| Q.1 | (a) | Define and classify carbohydrate with suitable examples. Also explain biological role of carbohydrates. | 06 |
| | (b) | Define bioenergetics and give relationship between free energy, enthalpy and entropy and redox potential. | 05 |
| | (c) | Draw flow chart of Glycolysis – Pathway and discuss its energetics and significance | 05 |
| Q.2 | (a) | Write a note on Electron transport chain (ETC) and its mechanism | 06 |
| | (b) | Explain Oxidative phosphorylation & its mechanism. | 05 |
| | (c) | Give brief note on β -Oxidation of saturated fatty acid. | 05 |
| Q.3 | (a) | Discuss Biological significance of cholesterol and conversion of cholesterol into bile acids and vitamin D. | 06 |
| | (b) | Give a brief note on De novo synthesis of fatty acids | 05 |
| | (c) | Give a detail note on urea cycle and its disorders | 05 |
| Q.4 | (a) | Write a brief note on catabolism of heme and discuss hyperbilirubinemia | 06 |
| | (b) | Give brief note on Protein synthesis and inhibitors | 05 |
| | (c) | Draw the Structure of DNA and RNA and discuss their functions. | 05 |
| Q.5 | (a) | Give detail on regulation of enzymes. | 06 |
| | (b) | Define and classify enzyme. | 05 |
| | (c) | Discuss Enzyme inhibitors with examples | 05 |
| Q. 6 | (a) | Give Therapeutic and diagnostic applications of enzymes | 06 |
| | (b) | Give hormonal regulation of blood glucose level. | 05 |
| | (c) | Write in brief Gluconeogenesis- Pathway. | 05 |
| Q.7 | (a) | Define energy rich compounds and give its classification and biological significance. | 06 |
| | (b) | Give a brief note on Uncouplers. | 05 |
| | (c) | Write a brief on Enzyme kinetics | 05 |
