

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.PHARM - SEMESTER- 4 EXAMINATION – SUMMER -2019**

**Subject Code: 2240003****Date: 17-05-2019****Subject Name: Pharmaceutical Chemistry – V (Biochemistry – II)****Time: 10:30 AM TO 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.

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|-------------|---|-----------|
| <b>Q.1</b>  | (a) Define and classify amino acids with examples.  | <b>06</b> |
|             | (b) Define and classify proteins by several ways with examples.                                     | <b>05</b> |
|             | (c) Discuss primary and secondary structure of protein.   | <b>05</b> |
| <b>Q.2</b>  | (a) Explain with diagram structure of DNA.  | <b>06</b> |
|             | (b) Write a note on nitrogen balance.   | <b>05</b> |
|             | (c) Explain transamination and deamination reactions of amino acids.                                | <b>05</b> |
| <b>Q.3</b>  | (a) Explain steps of urea cycle with its metabolic disorders.                                       | <b>06</b> |
|             | (b) Discuss biosynthesis of purine nucleotides.   | <b>05</b> |
|             | (c) Write a note on inhibitors of respiratory chain and oxidative phosphorylation.                  | <b>05</b> |
| <b>Q.4</b>  | (a) Explain steps involved in biosynthesis of heme. Add a note on jaundice.                         | <b>06</b> |
|             | (b) Define genetic code. Write its characteristics. What is non sense codons.                       | <b>05</b> |
|             | (c) Enumerate various chromatographic techniques. Discuss any one of them.                          | <b>05</b> |
| <b>Q.5</b>  | (a) Explain the process of DNA replication in prokaryotes.  | <b>06</b> |
|             | (b) Explain mechanisms for repair of DNA.   | <b>05</b> |
|             | (c) Enumerate sulphur containing amino acids with structures. Write about metabolism of methionine. | <b>05</b> |
| <b>Q. 6</b> | (a) Define translation. Write about initiation of translation.                                      | <b>06</b> |
|             | (b) Explain the concept of Lac operon with suitable diagram.  | <b>05</b> |
|             | (c) Define bioenergetics. Write about high energy compounds.  | <b>05</b> |
| <b>Q.7</b>  | (a) Explain electron transport chain.   | <b>06</b> |
|             | (b) Explain chemiosmotic hypothesis of oxidative phosphorylation.                                   | <b>05</b> |
|             | (c) Write about enzymes and coenzymes involved in biological oxidation.                             | <b>05</b> |

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