

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.PHARM – SEMESTER – 4- EXAMINATION –WINTER - 2018**

**Subject Code: 2240003**

**Date: 12/12/2018**

**Subject Name: Pharmaceutical Chemistry - V (Biochemistry - II)**

**Time: 02:30 PM TO 05:30 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) | Discuss the pyrimidine biosynthesis with its regulation.                                                                                                             | <b>06</b> |
|             | (b) | Explain any two mechanism of Oxidative phosphorylation.                                                                                                              | <b>05</b> |
|             | (c) | Explain Electrophoresis as a tool of Biochemistry.                                                                                                                   | <b>05</b> |
| <b>Q.2</b>  | (a) | Describe in detail transamination and deamination reactions for amino acids metabolism.                                                                              | <b>06</b> |
|             | (b) | Write a Short Note on denaturation of Protein.                                                                                                                       | <b>05</b> |
|             | (c) | Give detail account on Operon Concept.                                                                                                                               | <b>05</b> |
| <b>Q.3</b>  | (a) | Write about the reactions involved in the heme biosynthesis.                                                                                                         | <b>06</b> |
|             | (b) | Explain Southern Blotting technique as a tool of analysis in Biochemistry.                                                                                           | <b>05</b> |
|             | (c) | Define Protein and classify proteins based on chemical nature.                                                                                                       | <b>05</b> |
| <b>Q.4</b>  | (a) | What is the importance of bile pigments in human body? How it is formed and what are the implications of its metabolic disorders.                                    | <b>06</b> |
|             | (b) | Outline the step involve in the urea cycle and state its significance.                                                                                               | <b>05</b> |
|             | (c) | Write application of genetic engineering.                                                                                                                            | <b>05</b> |
| <b>Q.5</b>  | (a) | Write a note on biosynthesis of RNA.                                                                                                                                 | <b>06</b> |
|             | (b) | Discuss polymerase chain reaction in detal.                                                                                                                          | <b>05</b> |
|             | (c) | Notes on biological significance of ATP and cyclic AMP.                                                                                                              | <b>05</b> |
| <b>Q. 6</b> | (a) | Write a note on gene expression in eukaryotes.                                                                                                                       | <b>06</b> |
|             | (b) | Write a short note on Genetic code.                                                                                                                                  | <b>05</b> |
|             | (c) | Explain briefly about biosynthesis of nucleic acid.                                                                                                                  | <b>05</b> |
| <b>Q.7</b>  | (a) | What is replication? Why DNA replication is called semi-conservative. Explain the role of DNA polymerase, DNA ligase and DNA helicase in replication of prokaryotes. | <b>06</b> |
|             | (b) | Explain about excision-repair of DNA.                                                                                                                                | <b>05</b> |
|             | (c) | Discuss in detail isolation and purification of nucleic acid.                                                                                                        | <b>05</b> |

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