

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER-5 EXAMINATION – WINTER -2023

Subject Code: BP505TT**Date: 14/12/2023****Subject Name: Pharmaceutical Biotechnology****Time: 10.30 a.m. to 1.30 p.m.****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) Explain production of insulin using recombinant DNA technology. | 06 |
| | (b) Write short note on PCR. | 05 |
| | (c) What is cloning vector? Discuss cloning vector used in rDNA technology. | 05 |
| Q.2 | (a) Define mutation and discuss different types of mutation. | 06 |
| | (b) Differentiate Eukaryotes and Prokaryotes. | 05 |
| | (c) Write note on: ELISA. | 05 |
| Q.3 | (a) Enlist different techniques for enzyme immobilization and discuss any two in detail. | 06 |
| | (b) Discuss application of biotechnology in pharmaceutical field. | 05 |
| | (c) Write a note on production of Amylase enzyme. | 05 |
| Q.4 | (a) Explain working and application of biosensors. | 06 |
| | (b) Discuss microbial genetic method of conjugation. | 05 |
| | (c) Write a note on cellular immunity with diagram. | 05 |
| Q.5 | (a) Explain method of preparation of bacterial vaccine. | 06 |
| | (b) Write a note on Hybridoma technology. | 05 |
| | (c) Define immunity and give differentiate between Active immunity and Passive immunity. | 05 |
| Q. 6 | (a) Discuss structure of immunoglobulin with detailed information on each type. | 06 |
| | (b) Write a note on Hypersensitivity reaction. | 05 |
| | (c) Explain production of Vitamin B12 with flow chart. | 05 |
| Q.7 | (a) Draw schematic diagram of fermenter and describe its various controls. | 06 |
| | (b) Write a note on blood components and their preparation. | 05 |
| | (c) Explain production of Penicillin with flow chart. | 05 |
