

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

Subject Code: BP505TT**Date: 23/06/2023****Subject Name: Pharmaceutical Biotechnology****Time:02.30 p.m. to 5.30 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.

- | | | |
|-------------|-------------------------------------------------------------------------------------------------------------------|-----------|
| Q.1 | (a) Explain the steps of rDNA technology with its flow diagram. | 06 |
| | (b) What is plasma substitute? Give the difference between Plasma and Serum. | 05 |
| | (c) Write a note on PCR. | 05 |
| Q.2 | (a) Give applications of biotechnology in the field of pharmaceutical sciences. | 06 |
| | (b) Define enzyme immobilization. Explain in detail about different techniques. | 05 |
| | (c) Define Biosensor. Discuss applications of biosensors in Pharmaceutical Industries. | 05 |
| Q.3 | (a) What is Mutation? Give types of Mutation in detail. | 06 |
| | (b) Explain about production of Vitamin B 12 with flow chart steps. | 05 |
| | (c) Give the flow chart of Griseofulvin production, isolation and recovery by fermentation technique. | 05 |
| Q.4 | (a) Define Immunity. What are antibodies? Draw neat structures of all Immunoglobulins. | 06 |
| | (b) Enumerate types of hypersensitivity reaction and explain anaphylactic hypersensitivity. | 05 |
| | (c) Differentiate in detail for B cell and T cell. | 05 |
| Q.5 | (a) What in protein engineering? Give applications in protein engineering in pharma and medicine. | 06 |
| | (b) Differentiate (i) Humoral - Cellular immunity; (II) Active - Passive immunity. | 05 |
| | (c) Give structure and functions of Major Histocompatibility Complex. | 05 |
| Q. 6 | (a) Write a note on Production of Hepatitis B vaccine. | 06 |
| | (b) Write a note on Immuno blotting Techniques. | 05 |
| | (c) Write commercial uses of below mentioned enzymes:
Protease, Amylase, Peroxidase, Lipase, and Penicillinase | 05 |
| Q.7 | (a) Write note on
1. Cloning vectors 2. Toxoids and anti-toxins | 06 |
| | (b) Note on mutagenic agents. How mutants are identified? | 05 |
| | (c) Explain about ELISA. | 05 |
