

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Pharm. - SEMESTER- V • EXAMINATION – WINTER -2020**

**Subject Code: BP505TT****Date: 13/01/2021****Subject Name: Pharmaceutical Biotechnology****Time: 10:30AM TO 12:30PM****Total Marks: 54****Instructions:**

1. Attempt any **THREE** questions from Q-1 to Q-6.
2. **Q.7 is compulsory to attempt.**
3. **Make suitable assumptions wherever necessary.**
4. **Figures to the right indicate full marks.**

- Q.1** (a) Write a short note on PCR. **06**  
(b) Give brief note on production of hepatitis B vaccines. **05**  
(c) Write a note on production of Enzyme Amylase. **05**
- Q.2** (a) Explain Structure and Function of MHC. **06**  
(b) Give working and applications of biosensors. **05**  
(c) What are antibodies? Write a detail note on Immunoglobulins. **05**
- Q.3** (a) Give the flow sheet of Vitamin B12 production, isolation and recovery by fermentation. **06**  
(b) Write a brief note on PBR 322 vector. **05**  
(c) Explain general method of the preparation of bacterial vaccines. **05**
- Q.4** (a) Write a short note on Hypersensitivity reactions. **06**  
(b) Define enzyme immobilization and explain different techniques adopted. **05**  
(c) Detail discussion on Recombinant DNA technology. **05**
- Q.5** (a) Discuss Microbial genetic method of conjugation. **06**  
(b) Give the difference between humoral immunity vs cellular immunity. **05**  
(c) Give the brief application of genetic engineering in medicine. **05**
- Q. 6** (a) Design Fermenter and explain its various controls. **06**  
(b) Give the list of different mutagenic agents. How mutants are identify. **05**  
(c) Write a note on Hybridoma technology. **05**
- Q.7** (a) Give the flow sheet of Griseofulvin production, isolation and recovery by fermentation. **06**
- OR**
- (a) Explain Principle and Procedure of Western blotting. **06**
- OR**
- (a) Write a note on whole human blood and its storage. **06**

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