

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm - SEMESTER-6 • EXAMINATION – WINTER -2023

Subject Code: 260002**Date: 05/12/2023****Subject Name: Pharmaceutical Microbiology and Biotechnology-II****Time:02:30pm to 05:30pm****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) Define biotechnology. Write a note on scope of biotechnology. | 06 |
| | (b) Write a short note on ames test. | 05 |
| | (c) Differentiates Generalize transduction and specialized transduction, Vaccines and sera. | 05 |
| Q.2 | (a) Draw a schematic diagram of protoplast fusion and give its applications. | 06 |
| | (b) Write a note on Humulin produced by biotechnically. | 05 |
| | (c) Write a note on Hybridoma techniques. | 05 |
| Q.3 | (a) Define Interferon. How do they work? Write on different types of interferon. | 06 |
| | (b) Discuss first and second line defense mechanism. | 05 |
| | (c) Classify vaccines with one examples of each class. | 05 |
| Q.4 | (a) Comment: (i)Active immunity can not be acquired naturally.(ii)Seed culture is prepared in fermentation technique. | 06 |
| | (b) Discuss schick test. | 05 |
| | (c) Enlist the types of antigen antibody reactions. Discuss diffusions in two dimensions. | 05 |
| Q.5 | (a) Define fermentor.Draw schematic flow chart for production of benzyl penicillin by fermentation. | 06 |
| | (b) Discuss the preparation and preservation of master culture in fermentation techniques. | 05 |
| | (c) Draw labeled diagram of typical fermentor. Discuss different types of fermentors. | 05 |
| Q. 6 | (a) Define gene cloning.Discuss gene cloning and their applications. | 06 |
| | (b) Name the organisms required for production of streptomycin, Vit B ₂ , Vit B ₁₂ , Penicillin, alcohol. | 05 |
| | (c) How is Polio vaccine prepared, sterilized and stored? | 05 |
| Q.7 | (a) Define immobilization. Write a note on factor affecting enzyme kinetics. | 06 |
| | (b) Discuss the different techniques of immobilization. | 05 |
| | (c) Write in brief about different applications of immobilization. | 05 |
