

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Ph. - SEMESTER-V • EXAMINATION – WINTER -2021

Subject Code:BP505TT**Date:22/12/2021****Subject Name: Pharmaceutical Biotechnology****Time:10:30am to 01:30pm****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) | Enumerate the methods of recombinant DNA technology. Discuss any one in detail. | 06 |
| | (b) | Define gene cloning. Discuss gene cloning by Restriction endonuclease. | 05 |
| | (c) | Write detail note on PCR. | 05 |
| Q.2 | (a) | Define Biotechnology and Write detail note on application of Biotechnology in Pharmaceutical field. | 06 |
| | (b) | Discuss any two methods of enzyme Immobilization. | 05 |
| | (c) | What is Biosensor? Discuss applications of biosensors in Pharmaceutical Industries. | 05 |
| Q.3 | (a) | Write a note on collection, processing and storage of whole human blood. | 06 |
| | (b) | Differentiate Humoral and Cellular immunity, Active and passive immunity. | 05 |
| | (c) | Write a note on immunoglobulins. | 05 |
| Q.4 | (a) | Write a note Hybridoma technology. | 06 |
| | (b) | Write a note on ELISA. | 05 |
| | (c) | Discuss types of mutations. | 05 |
| Q.5 | (a) | Discuss how the mutants are isolated? | 06 |
| | (b) | Discuss General method of the preparation of bacterial vaccines and toxoids. | 05 |
| | (c) | Discuss General consideration for production of enzyme “Amylase”. | 05 |
| Q. 6 | (a) | Define fermentation. Draw labeled diagram of typical fermenter and give role of different parts of fermenter. | 06 |
| | (b) | Write short notes on Penicillin’s fermentative production. | 05 |
| | (c) | Write a note on media used for fermentation. | 05 |
| Q.7 | (a) | Write a detail note on Application of r DNA technology and genetic engineering in the production of Hormone- “Insulin”. | 06 |
| | (b) | Write a note on Hypersensitivity reactions. | 05 |
| | (c) | Differentiate transformation and transduction. | 05 |
