

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM SEMESTER-V- EXAMINATION – WINTER 2019**Subject code: BP505TT****Date: 26/11/2019****Subject Name: Pharmaceutical Biotechnology****Time: 02:30 PM TO 05:30 PM****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) Give application of biotechnology in pharmaceutical sciences. | 06 |
| | (b) Enumerate methods of immobilization and explain entrapment in brief. | 05 |
| | (c) What are the components of biosensors? | 05 |
| Q.2 | (a) Describe general consideration of enzyme production with flow chart. | 06 |
| | (b) Write commercial uses of following industrial enzymes:
Amylase, Lipase, Catalase, Protease and Pectinase | 05 |
| | (c) Give ideal properties of plasma substitutes. Give the difference between
Plasma and Serum | 05 |
| Q.3 | (a) Explain basic steps of recombinant DNA technology with flow diagram. | 06 |
| | (b) What are official blood products and explain anticoagulants. | 05 |
| | (c) What is PCR? Write its application. | 05 |
| Q.4 | (a) Explain Immunoglobulin and write its function. | 06 |
| | (b) Describe salient features of MHC. | 05 |
| | (c) Differentiate B cell and T cell in immune system. | 05 |
| Q.5 | (a) Enumerate types of hypersensitivity reaction and explain anaphylactic hypersensitivity. | 06 |
| | (b) Differentiate Active immunity and Passive immunity | 05 |
| | (c) Write application of hybridoma technology. | 05 |
| Q. 6 | (a) Describe types of biotransformation reactions. | 06 |
| | (b) Differentiate Eukaryotes and Prokaryotes | 05 |
| | (c) Explain role of mutation in biotechnology | 05 |
| Q. 7 | (a) Give ideal requirement of fermenter and sketch the general diagram of it. | 06 |
| | (b) Enumerate the methods of sterilization and explain moist heat sterilization. | 05 |
| | (c) Flow diagram of penicillin production by fermentation | 05 |
