

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Pharm. – SEMESTER – VI • EXAMINATION – WINTER • 2014**

**Subject Code: 260002****Date: 23-12-2014****Subject Name: Pharmaceutical Microbiology and Biotechnology II****Time: 02:30 pm - 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.

- Q-1** a) Define Mutation. Enumerate different types of Mutations, explain any one in details. **6**  
b) What do you understand by the term mutagenesis? Explain Radiation as Mutagen. **5**  
c) Describe the principle of the AMES test for identifying the chemical carcinogens. **5**
- Q-2** a) Write short notes on any 2: i) Streptokinase ii) Humulin iii) Monoclonal antibodies. **6**  
b) Discuss in details “Genetic Recombination”. **5**  
c) What do you understand by primary and secondary defense mechanism. **5**
- Q-3** a) Describe “Translation”, and be sure to include following terms: ribosome, rRNA, Amino acid activation tRNA, anticodon and codon. **6**  
b) Explain the terminologies: i) Zone of Inhibition and ii) Zone of Exhibition. **5**  
c) Briefly outline and explain the scope of Biotechnology. **5**
- Q-4** a) What are interferons? Classify them. **6**  
b) What are vaccines? How do vaccines work? **5**  
c) Write a note on standardization of Vaccines. **5**
- Q-5** a) Draw a flow sheet for the production of Penicillin. **6**  
b) Draw a neat diagram of fermentor and label the different **5**  
c) What do you understand by the term downstream processing? Enumerate two equipments used for it. **5**
- Q-6** a) Give the importance of culture media and its constitution. **6**  
b) How will you preserve bacterial culture? **5**  
c) An aerobic fermentor in operation is under a positive pressure. Explain. **5**
- Q-7** a) How is immobilization technique advantageous? Give different methods of immobilization. **6**  
b) Write a note on enzyme kinetics. **5**  
c) Briefly explain the technology utilized in “Dialysis”. **5**

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