

GUJARAT TECHNOLOGICAL UNIVERSITY**B.Ph SEM-VI Examination-Nov/Dec.-2011****Subject code: 260002****Date: 23/11/2011****Subject Name: Pharmaceutical Microbiology & Biotechnology II****Time: 10.30 am-01.30 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 Biotechnology. Give applications of Old & New Biotechnology. **06**
(b) Enumerate different types of mutations. Explain in detail any one of them. **05**
(c) How are mutants isolated? **05**
- Q.2** (a) How is master culture prepared & preserved? **06**
(b) Draw layout of fermentation area. **05**
(c) Name the cultures & process used for the preparation of the following using biotechnology: **05**
(i) Streptomycin (ii) Penicillin (iii) Cyanocobalamin (iv) Riboflavin
- Q.3** (a) What is Gene cloning? Give its importance. **06**
(b) Write a note on protoplast fusion. **05**
(c) Explain the following terms: **05**
(i) DNA replication (ii) Transduction
- Q.4** (a) Differentiate between: **06**
(i) Active & Passive immunity (ii) Vaccine & Sera
(b) Explain: **05**
(i) Antigenicity (ii) Virulence (iii) Attenuation
(c) Enumerate diphtheria prophylactics. Give method of preparation of any one. **05**
- Q.5** (a) What are the different techniques of immobilization of enzymes? **06**
(b) How is BCG vaccine prepared & sterilized? **05**
(c) Write a note on ELISA method or Widal test. **05**
- Q.6** (a) Write in detail about any two methods used for isolation of product from fermentation growth. **06**
(b) Draw a neat & labeled diagram of fermentor. **05**
(c) Give applications of immobilized enzymes **05**
- Q.7** (a) Draw a flow sheet of Riboflavin fermentation. Write in short about isolation of riboflavin from broth. **06**
(b) Write a note on waste disposal. **05**
(c) Write a note on defense mechanism against infection. **05**
