

GUJARAT TECHNOLOGICAL UNIVERSITY**M.E Sem-II Examination July 2010****Subject code: 721601****Subject Name: Industrial Biotechnology****Date: 05 /07 /2010****Time: 11.00am – 1.30pm****Total Marks: 60****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** Answer the following **12**
- (a) 1. What is Fermentation? Describe in detail the range or major group of Fermentation processes.
- (b) 2. Mention in detail the examples of commonly used carbon sources.
- Q.2** (a) Explain primary and secondary metabolites and discuss the production of Industrial Alcohol-Beer **06**
- (b) Describe the preservation of industrially important micro-organisms **06**
- OR**
- (b) Describe the isolation methods utilizing selection of desired characteristics. **06**
- Q.3** Answer the following. **12**
1. Discuss the advantages and disadvantages of solid state fermentation.
2. Describe about fixed volume and variable volume fed-batch fermentation.
- OR**
- Q.3** Answer the following. **12**
1. Explain and Discuss the media for industrial fermentations.
2. Explain and Discuss the Nitrogen sources and factors influencing the choice of Nitrogen sources.
- Q.4** Answer the following **12**
1. What is Sterilization and discuss about the filter sterilization.
2. Describe the development of Inocula for Yeast processes.
- OR**
- Q.4** Answer the following. **12**
1. Explain Modern Biotechnology and discuss about the vaccines.
2. Describe the multiple fermentation along with its characteristics.
- Q.5** Answer the following. **12**
1. Explain with the figure the inoculums development programme for the production of Sagamicin.
2. Describe about the Benzyl Penicillin product.
- OR**
- Q.5** Answer the following **12**
1. What is Steroids and Discuss about the Steroid transformation.
2. Describe about the Citric Acid OR Glutamic Acid product.
