

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. Sem-VI Examination May 2011****Subject code: 160402****Subject Name: Fundamentals of Industrial biotechnology****Date: 17/05/2011****Time: 10.30 am – 01.00 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) Explain batch fermentation process for Alcohol production. **10**
(b) What is criteria for good media? Explain in brief. **04**
- Q.2** (a) Explain different types of controls of biosynthetic pathway. **07**
(b) Explain fermentation process for streptomycin production. **07**
- OR**
- (b) Give a brief account on flask culture and pure culture stage for Baker's yeast production. **07**
- Q.3** (a) Explain fermentation of citric acid using *A.niger* in carbohydrate media. **10**
(b) Discuss different types of amylases with its production process. **04**
- OR**
- Q.3** (a) Write a short note on fermentation of gluconic acid using *A.niger*. **10**
(b) Discuss different types of cellulase with its production process. **04**
- Q.4** (a) Give a detail description on wide ranges of products obtained by fermentation process. **07**
(b) Define monoclonal antibody. How is it produced? **07**
- OR**
- Q.4** (a) Define fermentor. Explain in brief design of an ideal fermenter. **07**
(b) Give detail explanation with suitable example of subunit vaccine production by recombination techniques. **07**
- Q.5** (a) Differentiate between solid state fermentation and sub merge fermentation process with justification and example. **07**
(b) Write a note on various factors affecting solid state fermentation. **07**
- OR**
- Q.5** (a) Write a short note on Host vector system **07**
(b) Differentiate between animal cell culture and plant cell culture. How animal cell culture can be produced? **07**
