

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- VIth SEMESTER–EXAMINATION – MAY- 2012****Subject code: 160402****Date: 11/05/2012****Subject Name: Fundamentals of Industrial Biotechnology****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 recovery process for citric acid. **07**
(b) Write application of amylase, lipase and cellulase. **07**
- Q.2** (a) Write a short note on improvement of industrial micro organisms using recombinant technology. **07**
(b) Explain fermentation process for penicillin production. **07**
OR
(b) Explain preservation of industrial microorganisms. **07**
- Q.3** (a) Explain batch fermentation process for alcohol production and also compare industrial fermentation processes. **10**
(b) Explain fermentation of lactic acid. **04**
OR
- Q.3** (a) Write a short note on fermentation of gluconic acid using *A.niger*. **10**
(b) Explain industrial fermentation process for protease production. **04**
- Q.4** (a) Give an overview about traditional and modern biotechnological products. **07**
(b) Define monoclonal antibody. How is it produced? **07**
OR
- Q.4** (a) Differentiate between solid state fermentation and sub merge fermentation process with justification and example. **07**
(b) Give detail explanation with suitable example of subunit vaccine production by recombination techniques. **07**
- Q.5** (a) Differentiate between animal cell culture and plant cell culture. How animal cell culture can be produced? **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) Explain about plasmid stability in recombinant cell culture. **07**
