

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – I • EXAMINATION – WINTER • 2014

Subject code: 1721601**Date: 02-12-2014****Subject Name: Industrial Biotechnology****Time: 02:30 pm - 05:00 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) Describe the preservation of industrially important micro-organisms. **07**
(b) Explain Fermentation Process with generalized Schematic representation. **07**
- Q.2** (a) With graphical representation, Explain batch culture in detail. **07**
(b) Explain primary and secondary metabolites with examples. **07**
- OR**
- (b) Discuss in detail about water and other energy sources as media component. **07**
- Q.3** (a) Explain Recombinant DNA technology in detail. **07**
(b) How industrially important micro-organism can be isolated utilizing selection of the desired characteristic? **07**
- OR**
- Q.3** (a) What is inoculum? What are the required characteristics of inoculum for the desired inoculation? **07**
(b) Explain traditional fermenter with all its parts and neat sketch. **07**
- Q.4** (a) What are the criteria for transfer of inoculums? **07**
(b) Explain sterilization. Explain effect of time of sterilization on population of micro-organism and yield of product with sketches. **07**
- OR**
- Q.4** (a) Write a short note on Antibiotics **07**
(b) Explain Glutamic acid production in detail. **07**
- Q.5** (a) Write in brief about production process for beer **07**
(b) Explain importance of modern industrial biotechnology. **07**
- OR**
- Q.5** (a) Write in brief about Biopesticides **07**
(b) Explain Dual or Multiple fermentation in detail. **07**
