

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER- VI EXAMINATION – SUMMER 2015

Subject Code: 160402**Date: 04/05/2015****Subject Name: Fundamentals of Industrial Biotechnology****Time: 10.30AM-01.00PM****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) What are the different strategies that can be employed for the improvement of industrially important strains? **07**
(b) What is medium formulation? Explain it in detail. **07**
- Q.2** (a) Classify media into different categories and explain all. **07**
(b) What are the different ways for preservation of micro organisms? **07**
- OR**
- (b) Differentiate between solid state fermentation and submerged fermentation. Enlist their merits and demerits. **07**
- Q.3** (a) What are different fermentative ways used in industry for production of acetic acid? **07**
(b) Explain the process of recovery of glutamic acid after fermentation process with a neat flowchart. **07**
- OR**
- Q.3** (a) State different raw materials that can be used for fermentative production of ethanol. **07**
(b) Explain different methods used for fermentative production of amylase. **07**
- Q.4** (a) Write a detailed note on microbial protease production. **07**
(b) Write a detailed account on features of fermenter used in cephalosporin fermentation. **07**
- OR**
- Q.4** (a) Explain the process of submerged fermentation for citric acid production along with its recovery. **07**
(b) Explain the fermentation process for production of L-aspartic acid. **07**
- Q.5** (a) Describe fermentation and recovery process for streptomycin fermentation. **07**
(b) Enlist different classes of protease and explain each. **07**
- OR**
- Q.5** (a) What is fermentation? How it is beneficial compared to chemical processes? **07**
(b) Describe fermentation and recovery process for Lipase fermentation. **07**
