

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2014

Subject code: 1721601

Date: 16-06-2014

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) Discuss fermentation process with definition and scope. Also describe component parts of fermentation process with schematic representation. **07**
(b) Write name of different carbon source for media and Discuss the selection criteria for carbon source as media component. **07**
- Q.2** (a) Discuss chemostat and turbidostat with its classification. **07**
(b) Explain recombinant DNA technology in detail. **07**
- OR**
- (b) Give classification and details of microorganism. **07**
- Q.3** (a) What is Vitamin? Write a short note on vitamin B₁₂. **07**
(b) Discuss the inoculum development program for yeast processes. **07**
- OR**
- Q.3** (a) Explain enrichment culture using solidified media for isolation of microorganism. **07**
(b) Discuss adverse effect of heat on media. **07**
- Q.4** (a) Write different methods for preservation of microorganism in detail. **07**
(b) Explain solid state fermentation in detail. **07**
- OR**
- Q.4** (a) Explain modern industrial biotechnology in terms of biofertilizer and biopesticides. **07**
(b) Write in detail about continuous sterilization. **07**
- Q.5** (a) Discuss the effect of medium and culture rheology on oxygen transfer rate. **07**
(b) What is enzyme? Write in brief about production process for αAmylase. **07**
- OR**
- Q.5** (a) Discuss the production process for Citric acid production. **07**
(b) Explain two different types of bioreactor in detail. **07**
