

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER–VIII • Remedial EXAMINATION – WINTER 2013

Subject Code: 181404

Date: 12/09/2013

Subject Name: Food Fermentation Technology

Time: 03:00 pm – 05:30 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)** Define following terms **08**
1. Log phase
 2. Fermentation
 3. Baffles
 4. Champagne
- (b)** Enlist ideal characteristics of an industrial scale fermentor. **06**
- Q.2 (a)** Describe different types of impellor and explain the flooding phenomena in fermentor **07**
- (b)** Describe the concept of ‘Containment’ in industrial fermentation processes **07**
- OR**
- (b)** Write a note on steam traps with explanation of it’s working principles. **07**
- Q.3 (a)** Explain the process flow diagram for preparation of spirit **07**
- (b)** Write in detail about classification of fermentation culture media **07**
- OR**
- Q.3 (a)** Explain any two methods used for determination of ‘KLa’ value. **08**
- (b)** What points should be considered while formulating a fermentation media? **06**
- Q.4 (a)** Describe the term ‘Del Factor’ with it’s mathematical derivation **07**
- (b)** Write a detailed note on ‘materials of construction for industrial fermentor’ **07**
- OR**
- Q.4 (a)** Describe the role and sources of carbon in fermentation media **07**
- (b)** Give the mathematical derivation for destruction of viable cells during sterilization. **07**
- Q.5 (a)** State and describe different types of valves used in fermentor. **06**
- (b)** Give applications of industrial fermentation process and explain what do you mean by upstream and downstream processing? **08**
- OR**
- Q.5 (a)** Explain Richard’s graphical integration method used for calculation of ‘del factor’ during heating and cooling periods of sterilization **06**
- (b)** Describe important steps for industrial manufacture of beer **08**
