

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-IV Examination-Nov/Dec-2011

Subject code: 141402

Date: 25/11/2011

Subject Name: Food and Industrial Microbiology

Time: 02.30 pm -5.00 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) Answer the following to the points **08**
- (i) Sourage in milk.
 - (ii) Blanching of fruits and vegetables.
 - (iii) Brewer's and Baker's yeast.
 - (iv) Enlist broad categories of products process by fermentation technique.
- (b) Discuss food preservation by use of chemicals. **06**
- Q.2 (a) Discuss Spoilage of canned food by thermophilic sporeforming bacteria. **07**
- (b) Discuss major component must be added in formulation of fermentation media. **07**
- OR
- (b) Write the basic components and their major function in ideal fermenter. **07**
- Q.3 (a) List various food borne disease. Discuss bacterial food poisoning. **07**
- (b) Discuss sterilization of media. **03**
- (c) Enlist various methods of cell disruption for intracellular products recovery **04**
- OR
- Q.3 (a) Explain preservation of food by radiation. **07**
- (b) Write about microorganisms associated with cereals. **03**
- (c) What are ideal characteristic of inoculums **04**
- Q.4 (a) Discuss production of citric acid by fermentation. **06**
- (b) Discuss low temperature preservation of food. **04**
- (c) Explain recovery process of alcohol from fermentation broth. **04**
- OR
- Q.4 (a) Discuss spoilage of bread and flours by microorganism. **07**
- (b) List changes in food due to radiation **03**

- (c) Discuss any one method and factors affecting on it for separation of biomass from fermentation broth. **04**
- Q.5 (a) Explain function of Hops and Adjunct as an ingredient in Beer production. **06**
- (b) List four Spoilage conditions of fruits and vegetables by microorganisms. **04**
- (c) Brief about D value and F value for microorganisms. **04**
- OR**
- Q.5 (a) What are general characteristic of fermentation media? **06**
- (b) Give permitted dose of radiation for various food as per PFA. **04**
- (c) List various techniques for maintaining cultures. **04**
