

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. - SEMESTER – IV • EXAMINATION – WINTER 2012****Subject code: 141402****Date: 27/12/2012****Subject Name: Food and Industrial Microbiology****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a) Answer the following in short and to the points **08**
(i) Redurization (ii) 12 D concept
(iii) Hedrogen Swell (iv) Screening of microorganism
- (b) List various chemical preservative. Discuss food preservation by specific use of suitable chemical preservative. **06**
- Q.2 (a) Discuss role of microorganisms in spoilage of milk and milk products. **07**
(b) Discuss various carbon sources used in fermentation media formulation **07**
- OR**
- (b) Write name of organism, medium characteristics, process parameters apply in citric acid fermentation **07**
- Q.3 (a) Classify canned foods based on acidity and explain their spoilage **07**
(b) What is the application of gamma radiation in food preservations? **04**
(c) Write brief account on various methods for inoculation development **04**
- Q.3 (a) List various physical preservation methods of food. Discuss high temperature preservation of food. **05**
(b) Discuss various microbial spoilage conditions in fruits and vegetables **05**
(c) State major criteria to be considered in designing of typical fermenter **04**
- Q.4 (a) List common pathogens responsible for food Bourne illness in human being **06**
Explain Botulism, Staphylococcal Gastroenteritis and listeriosis.
(b) Discuss low temperature preservation of food techniques **04**
(c) Explain general flow chart for product(s) recovery process from fermentation broth **04**
- Q.4 (a) Explain production of vinegar (Acetic acid) by fermentation process **07**
(b) Brief about use of sterilization in food industry **03**
(c) Discuss filtration aids used in filtration technique in separation of biomass from fermentation broth **04**
- Q.5 (a) Discuss major steps adopted in commercial production of bear? **06**
(b) List four industrially important molds with their specific roles. **04**
(c) Brief introduce spoilage of cereal grains and bakery products by microorganisms. **04**
- Q.5 (a) State various techniques used for preservation of microbial culture for fermentation applications. **06**
(b) What is food infection and intoxication? List various food borne pathogens. Discuss any four pathogens in detail. **08**
