

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. - SEMESTER – III • EXAMINATION – WINTER 2012

Subject code: 131402**Date: 10-01-2013****Subject Name: Basic Food Microbiology****Time: 10.30 am – 01.00 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) Write major characteristics of bacteria & protozoa groups of microbes. **07**
(b) List various structures external and internal to the cell wall and write major function of each. **07**
- Q.2** (a) Write about size and various shapes of bacterial cell and mention about arrangement of different shapes. **07**
(b) Define terms: (i) Resolution power (ii) Generation time (iii) 'D-value' (iv) Stain (v) Mordant (vi) Growth rate (vii) Total magnification. **07**
OR
(b) Explain gram's staining using cell wall structure of gram +ve and gram -ve bacteria. **07**
- Q.3** (a) Discuss various technique used for isolation and purification for pure culture of microorganism. **07**
(b) Write short note on control of growth of microorganisms by physical agents. **07**
OR
- Q.3** (a) Enlist various components and its functions used in light microscope. **07**
(b) List major groups of chemical antimicrobial agents and write characteristics of an ideal antimicrobial chemical agent. **07**
- Q.4** (a) Classify and discuss various staining techniques and its usefulness in microorganism observation. **07**
(b) Discuss various factors affecting growth of microorganism in food. **07**
OR
- Q.4** (a) What are methods for measurement of microbial population in culture? Explain any one. **07**
(b) What is nitrogen fixation? Discuss role of soil microorganism and their interaction. **07**
- Q.5** (a) Differentiate between prokaryotic and Eukaryotic microbes. **07**
(c) Explain growth of bacteria using growth curve. **07**
OR
- Q.5** (a) Give account on the various mechanism of genetic transfer among bacteria for recombination. **07**
(b) Enlist seven full name of microorganism with its habitats. **07**
