

GUJARAT TECHNOLOGICAL UNIVERSITY**B.E. Sem-III Regular / Remedial Examination December 2010****Subject code: 131402****Subject Name: Basic Food Microbiology****Date: 14 /12 /2010****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) Give morphological characteristics of bacteria cells. **05**
(b) Differentiate between Prokaryotes and Eukaryotes cells. **05**
(c) What is contribution of Pasture and Koch in microbiology? **04**
- Q.2** (a) Give detail structure of Gram Positive and Gram Negative bacterial cell wall **07**
(b) Explain with graphical presentation of bacterial growth cycle regarding with various phases of growth & physiological states of organisms. **07**
- OR**
- (b) Give account with diagram on detailed structure of flagella in prokaryotic organisms. **07**
- Q.3** (a) Discuss various types of media used for cultivation of microorganism with important of each media components. **05**
(b) What is pure culture? And write on methods for isolation of that? **05**
(c) Classify bacteria based on requirement of oxygen and temperature for their growth. **04**
- OR**
- Q.3** (a) Define terms: (1) Generation time, (2) Disinfectant (3) 'D-value' (4) 'F-value' (5) Mordant. **05**
(b) Write functions of cell membrane in bacterial cells activity. **05**
(c) Give detail regarding nitrogen fixation in soil by bacteria. **04**
- Q.4** (a) Enlist various physical processes for control of microorganisms and explain any one in detail. **05**
(b) State the various role of dye in microbial study. **05**
(c) Write principle of Gram staining of bacteria. **04**
- OR**
- Q.4** (a) What is antimicrobial agent? Write in detail various chemical agents used for controlling microorganisms in food plant along with their mode of action **05**
(b) What is bacterial spore? Draw schematic diagram of normal bacterial cell and bacterial spore. **05**
(c) Explain various mode of cell division of micro organisms. **04**
- Q.5** (a) State differences between electron and light microscope. **05**
(b) Enlist various methods of sample preparation for light and electron Microscope observation. **05**
(c) Enlist eight full name of microorganism with its habitats. **04**
- OR**
- Q.5** (a) What are application of Dark phase and Phase contrast microscope? **05**
(b) What are methods for measurement of microbial population in culture and explain any one. **05**
(c) Write the short note on bacterial recombination. **04**
