

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE SEM-III Examination May 2012****Subject code: 131302****Subject Name: Environmental Microbiology**

Date: 15/05/2012

Time: 02.30 pm – 05.00 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) Highlight the importance of Microbiology in Environmental Engg. **07**  
 (b) Enlist the chemical agents for control of microbes. Explain any one type of chemical agent. **07**
- Q.2** (a) Draw a neat and labeled diagram of bacterial cell and enlist & explain the Internal and external parts. **07**  
 (b) Enlist and explain the methods of isolation of pure culture. **07**
- OR**
- (b) Write a brief note on “History of microbiology”. **07**
- Q.3** (a) Explain in detail the procedure for Standard Plate Count (SPC) test using serial dilution technique for milk. **07**  
 (b) Write a short note on “Vinegar production” using microbes. **07**
- OR**
- Q.3** (a) Give the classification of bacteria based on shape and nutritional requirement. **07**  
 (b) Draw a neat sketch to show the different stages of bacterial growth and explain about each stage. **07**
- Q.4** (a) Differentiate between Prokaryotes and Eukaryotes. **07**  
 (b) Give the classification of Protozoa. Explain each type with the help of neat sketches. **07**
- OR**
- Q.4** (a) Write a short note on MPN test for water. **07**  
 (b) What is the importance of pure culture? Explain the techniques for preservation of pure culture. **07**
- Q.5** (a) Enlist and explain the factors affecting antimicrobial action of a disinfectant **07**  
 (b) Differentiate between (Any two): **07**
- (i) Disinfection and sterilization
  - (ii) Antiseptic and Sanitizer.
  - (iii) Dry Heat sterilization and moist heat sterilization
- OR**
- Q.5** Write the causes, symptoms, treatment and prevention of any two diseases. **14**

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