

GUJARAT TECHNOLOGICAL UNIVERSITY**BE SEM-III Remedial Examination May 2011****Subject code: 131302****Subject Name: Environmental Microbiology****Date: 25/05/2011****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) Explain the procedure to perform the Presumptive Test to estimate the MPN of water. Highlight the importance of MPN test in drinking water. **07**
- (b) Differentiate between sterilization and disinfection. Also define pasteurization and lyophilization **07**

- Q.2** (a) Draw a neat sketch of bacterial cell and explain its different parts. **07**
- (b) Write down the procedure to estimate the Standard Plate Count of milk using Serial Dilution Technique. **07**

OR

- (b) What is pure culture? Prepare a list of different techniques for isolation of pure culture and explain each method. **07**

- Q.3** (a) Explain the importance of microbiology in the field of Environmental Engg. **07**
- (b) Explain the procedure for production of lactic acid. **07**

OR

- Q.3** (a) Write a note on chlorine and chlorine compounds for disinfection **06**
- (b) How is moist heat more effective in killing the microbes as compared to dry heat? Explain the construction and working of an autoclave with the help of a neat sketch. **08**

- Q.4** (a) Give the classification of protozoa with sketches. **07**
- (b) Give the classification of viruses with respect to their shape and types. Also enlist the typical diseases caused by virus. **07**

OR

- Q.4** (a) Give the classification of types of bacteria based on shape, size and nutritional requirements. **07**
- (b) What is the role of algae in environment? Explain its beneficial and harmful effects. **07**

- Q.5** (a) List down the characteristics of an ideal disinfectant. **07**
- (b) Give the classification of fungi and explain any one in detail with sketch. **07**

OR

- Q.5** (a) Write a note on disease typhoid highlighting the causes, symptoms, treatment and prevention. **07**
- (b) What is eutrophication? Explain the measures to control eutrophication. **07**