

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III • EXAMINATION – WINTER 2013

Subject Code: 131302

Date: 07-12-2013

Subject Name: Environmental Microbiology

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) With the help of neat and labeled diagram enlist and explain the internal & external parts of bacterial cell. **07**
(b) What is Pure Culture? Enlist & Explain all the four techniques for isolation of Pure Culture. **07**
- Q-2** (a) Explain the importance of Microbiology in the field of Environmental Engineering. **07**
(b) List down the characteristics of an ideal disinfectant. **07**
- OR**
- (b) What is the role of algae in environment? Explain its beneficial & harmful effects. **07**
- Q-3** (a) Write a note on Chlorine & Chlorine compounds for disinfection. **07**
(b) How is Moist heat more effective in killing the microbes as compared to Dry heat? Explain the construction & working of an Autoclave with the help of a neat Sketch. **07**
- OR**
- Q-3** (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 Prokaryotic & Eukaryotic cell giving at least seven points of differences. **07**
- Q-4** (a) Give the clear difference between Optical(light) Microscope & Electron Microscope. With the help of neat diagram, explain the working principle of Bright field Microscope. **07**
(b) Explain the Production of Vinegar. **07**
- OR**
- Q-4** (a) Enlist and explain the factors affecting the antimicrobial action. **07**
(b) Answer the following : **07**
(1) Enlist & Explain the different types of media used in Microbiology.
(2) Difference between Pure culture & Mixed culture.
- Q-5** (a) Prepare a list of Water borne diseases & explain any one giving causative agent, symptoms & Preventive measures. **07**
(b) What is Eutrophication? Explain the measures to control Eutrophication. **07**
- OR**
- Q-5** (a) Write a note on disease Malaria highlighting the causes, symptoms, treatment & prevention. **07**
(b) Differentiate Between: (Any Two) **07**
(1) Disinfection & Sterilization
(2) Antiseptic & Sanitizer
(3) Dry heat sterilization & Moist heat sterilization
