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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- III EXAMINATION – SUMMER 2015

Subject Code: 2131302 Date: 02/06/2015 Subject Name: ENVIRONMENTAL MICROBIOLOGY & BIOREMEDITION Time: 02.30pm-05.00pm Total Marks: 70 **Instructions:** 1. Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. With the help of a neat sketch, explain the different parts of bacterial cell. 07 0.1 (a) Explain the monitored Natural Attenuation (MNA) process. 07 **(b) Q.2** Enlist and explain the different types of media used in microbiology. **07** What do you understand by Culture Preservation Techniques and explain its **07** methods. OR (b) Draw a neat sketch to show the different stages of bacterial growth and explain **07** about each stage. What is the role of algae in environment? Explain its beneficial and harmful **07** 0.3 effects. **(b)** Enlist and Explain the Physical methods of sterilization. 07 OR Explain the procedure to estimate the MPN of water. Highlight the importance 0.3 07 (a) of MPN test in drinking water. (b) What do you understand by Phylum Basidiomycota fungi and enlist the Uses of **07** Fungi. 0.4 (a) With the help of neat sketch explains the Bacteriophages (Bacterial viruses)? **07** Write down the procedure to estimate the standard plate count of milk using **07** serial dilution technique OR 0.4 Write a short note on bioremediation and discuss its constraints and priorities 07 Conceptualize the role of microbes in human life and Environment. 07 **(b) Q.5** Apply the knowledge of fermentation process; find out the production of (a) **07** Vinegar. (b) Write the causes, symptoms, treatment and prevention of Malaria diseases. 07 0.5 Explain the role of microorganisms in Sewage Treatment. **07 07 (b)** Explain the process of control of microbes in Environment.
