



**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-III (OLD) EXAMINATION – WINTER 2017**

**Subject Code:131302**

**Date:21/11/2017**

**Subject Name: Environmental Microbiology**

**Time: 10:30 AM to 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)** Differentiate between Prokaryotes and Eukaryotes. **07**
- (b)** Highlight the importance of microbiology in field of environmental Engineering. **07**
- Q.2 (a)** Enlist and explain the different types of media used in microbiology. **07**
- (b)** Differentiate between Dry heat sterilization and moist heat sterilization **07**
- OR**
- (b)** Write a brief note on History of microbiology. **07**
- Q.3 (a)** Draw a neat and labeled diagram of bacterial cell and enlist & explain the Internal and external parts. **07**
- (b)** Write down the procedure for "Gram staining". **07**
- OR**
- Q.3 (a)** Write down the procedure to estimate the standard plate count of milk using serial dilution technique. **07**
- (b)** Enlist the diseases caused by bacteria and explain the symptoms, treatment and prevention of any One in detail. **07**
- Q.4 (a)** Write a procedure for production of amino using microbes. **07**
- (b)** Write short notes on following chemical agents as a disinfectant **07**
- (I) Phenolic compounds                      (II) Chlorine compounds





**Q.4 (a)** Give the classification of fungi and explain any one in detail with sketch. **07**

**(b)** Enlist and explain the methods of isolation of pure culture. **07**

**Q.5 (a)** With the help of a neat sketch, explain the stages of typical bacterial growth Curve. **07**

**(b)** What is the role of algae in environment? Explain its beneficial and harmful effects. **07**

**OR**

**Q.5 (a)** Give the classification of protozoa and explain any one type in detail. **07**

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

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