Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– III EXAMINATION – SUMMER 2015

Subject code: 131302 **Date:02/06/2015**
Subject Name: Environmental Microbiology
Time: 02.30pm-05.00pm **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) Give the classification of bacteria with sketches.	**07**
	(b)Explain the significance of Microbiology in the field of environmental engineering.	**07**
Q-2	(a)Write a short note on isolation & preservation of Pure culture. What is significance of pure culture?	**07**
	(b)Describe Microbial procedure to estimate the MPN test for Water.	**07**
	OR	
	(b) Differentiate between : (1) Actinomycetes & streptomycetes	**07**
	(2) Pure culture & Mixed culture	
Q-3	(a) Enlist and Explain the factors affecting the antimicrobial action.	**07**
	(b) With the help of neat sketch explain the morphology & reproduction of Viruses.	**07**
	OR	
Q-3	(a) State the differences between Sterilization & Disinfection. Explain the different types of disinfectants.	**07**
	(b) Write a short note on chlorine & chlorine compounds for disinfection.	**07**
Q-4	(a) Give the differences between optical (light) microscope & electron microscope. With the help of neat diagram explain the working principle of Bright field microscope.	**07**
	(b) Short note on Eutrophication.	**07**
	OR	
Q-4	(a) What is the role of algae in environment? Explain its beneficial & harmful effects.	**07**

	(b) Write down the Principle, requirements & procedure of Gram staining.	**07**
Q-5	(a) Write a note on disease Malaria highlighting the causes, symptoms, treatment & prevention	**07**
	(b)Explain the procedure for production of Vinegar.	**07**
	OR	
Q-5	(a) Prepare a list of water borne disease & Explain any one giving causative agent , symptoms & preventive measures .	**07**
	(b) Differentiate between Prokaryotes & Eukaryotes.	**07**