

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – I • EXAMINATION – WINTER • 2013

Subject code: 711703N**Date: 03-01-2014****Subject Name: Environmental Microbiology****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 role of microorganisms in Environment. **07**
(b) Enlist the types of microorganisms important to environmental engineer and explain each of them in brief. **07**

- Q.2** (a) Explain microbial growth. **07**
(b) Write short note on “Staining”. **07**

OR

- (b) Write a short note on “Transmission Electron Microscope”. **07**

- Q.3** (a) With a suitable diagrams give Watson’s and Crick’s model of double helix of DNA. **07**
(b) Define enzymes? Write in brief about enzyme action and their different structural component. **07**

OR

- Q.3** (a) What is glycolysis? Discuss in brief the different route of glucose utilization? **07**
(b) What is transduction? Describe in detail the types of transduction studied by you. **07**

- Q.4** (a) What is Virus? Write in brief its general feature and structure. **07**
(b) Write a short note on “Bacteriophages” **07**

OR

- Q.4** (a) Define nitrogen fixation. Write the mechanisms involved of nitrogen fixation. **07**
Q.4 (b) What is fermentation? Describe different type of fermentation process carried out in industry. **07**

- Q.5** (a) Describe the physical and chemical methods of food preservation. **07**
(b) Write a short note on AIDS”. **07**

OR

- Q.5** (a) What is Biogeochemical cycling? Discuss the Carbon cycle in detail with sketch. **07**
(b) What is MPN? Write in Brief the different tests used to measure the MPN. **07**