Seat No.:	Enrolment No

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER- I (New course) • REMEDIAL EXAMINATION - SUMMER 2015 Subject Code2711702 Date: 13/05/2015 Subject Name: Environmental Chemistry & Microbiology Time: 10:30 am to 1:00 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 Explain principle of flame photometry with diagram. Write down its **07** application. (b) What is the principle of colorimetric analysis? Explain its application for 07 analysis of any one water quality parameter. **Q.2** Discuss analysis of COD in water sample by giving principle, reaction **07** mechanism and procedure. Why HgSO₄ is added during analysis? (b) What is Hardness? Explain principle of EDTA titrimetric analysis for Hardness **07** determination. OR How many types of Alkalinity are present in water? Write down determination **07** of Alkalinity by titrimetric method. Q.3Explain principle of GC analysis. Explain its application in water / wastewater **07** analysis? (i) Define Brownian movement and Tyndal effect. **07** (b) (ii) Explain effect of nuclear radiation on human. OR Brief about major types of Pesticides. Explain hazards presented by various Q.3 07 pesticides to human being. State various membrane technologies on the basis of particle size. 07 (b) Explain principle of Reverse Osmosis and Electro dialysis in demineralization of brackish water. **Q.4** Explain environmental significance of Biological Oxygen Demand. 07 (a) Write brief account of Dissolved Oxygen. 07 (b) Explain causes and consequences of D.O. depletion in water resources. OR **Q.4** Write down Applications of Industrial Microbiology. 07 (a) Discuss procedure of isolation and characterization of any one soil habitat (b) 07 bacteria. **Q.5** Explain role of Enzyme with reference to Metabolic activity. **07** (a) Discuss significance of Applied Microbiology in case of Air Quality Analysis. 07 (b) **Q.5** What is Anerobic and Aerobic Respiration? **07** (a) Explain both of these techniques used in Sewage Treatment. Differentiate between Microscopy and Micrometry. **07** (b)
