

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE SEM-IV Examination-Nov/Dec-2011**

**Subject code: 141302**

**Date: 28/11/2011**

**Subject Name: Environmental Sciences-II**

**Time: 02.30 pm -5.00 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) Give the difference between organic compounds and inorganic compounds with examples. **07**  
(b) Why organic matter removal is important for wastewater treatment ? **07**

- Q.2** (a) Write chemical equations involved in the modified Winkler Method for Dissolved Oxygen **07**  
(b) Which modification is required in unmodified Winkler Method for Dissolved Oxygen ? Why ? **07**

**OR**

- (b) Write the applications of DO determination in waste water treatment. **07**

- Q.3** (a) Explain working principle of COD determination with examples. **07**  
(b) Why COD is greater than BOD? What is Refractory Matter ? Give examples of refractory matter. **07**

**OR**

- Q.3** (a) How dilution water is prepared in laboratory ? **07**  
(b) How will you determine Oil and Grease in laboratory ? **07**

- Q.4** (a) What is common ion effect? Give its application in waste water treatment with examples. **07**  
(b) Explain solubility product with appropriate examples. **07**

**OR**

- Q.4** (a) Write a short note on binary mixtures. **07**  
(b) Explain principle of solvent extraction. **07**

- Q.5** (a) Explain Phenolphthalein Acidity & Methyl Orange Acidity in detail. **07**  
(b) Write the sources of Acidity in waste water and water. **07**

**OR**

- Q.5** (a) Explain Dialysis with neat sketch. **07**  
(b) Explain principle of Solvent Extraction. **07**

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