

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III • EXAMINATION – WINTER 2013****Subject Code: 133505****Date: 26-11-2013****Subject Name: Chemistry for Environmental Science & Technology****Time: 02.30 pm - 05.00 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 importance of determination of solid in sewage. How do you determine the suspended solids in a given sample of waste water? **07**
- (b) Define environment? Describe the four major layers of the atmosphere with suitable diagram. **07**
- Q.2** (a) Define distilled and dematerialized water. Discuss the various methods of preparing distilled water. **07**
- (b) Define- Atomic, molecular and equivalent weight with their relationship. Discuss the standardization of solution with primary standards. **07**
- OR**
- (b) What is sustainable development? Briefly describe the key aspects of sustainable development. **07**
- Q.3** (a) What do you mean by volumetric and gravimetric analysis? Discuss the basic requirements and procedure for volumetric and gravimetric analysis. **07**
- (b) Briefly discuss the concept of neutralization in chemical reaction. Also give its applications in environmental chemistry. **07**
- OR**
- Q.3** (a) Why do you estimate the purity of chemicals? Discuss any two methods to estimate the purity of chemicals. **07**
- (b) Briefly describe the measurement of NO_x in ambient air. **07**
- Q.4** (a) Define conductivity? Briefly explain the working principle of conductivity meter. **07**
- (b) Write short notes on:
- i) BOD **02**
- ii) Apparent & True color **02**
- iii) Cause of color in water **03**
- OR**
- Q.4** (a) Discuss the physical, chemical and biological characteristics of waste water in brief. **07**
- (b) Define Air pollution? Describe the measurement of particulate matter in ambient air. **07**
- Q.5** (a) What is used as the standard unit of color? How will you measure color in waste water sample? **07**
- (b) What do you mean by hard water? Discuss its types and measurement of hardness in water. **07**
- OR**
- Q.5** (a) Define the term pH. Also give its basic concept and measurement in sample of water **07**
- (b) Discuss the Winkler test for measurement of dissolved oxygen in a sample of water. **07**
