

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-V Examination-Nov/Dec.-2011

Subject code: 151302**Date: 24/11/2011****Subject Name: Advanced Environmental Instrumentation****Time: 2.30 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) Write short note on Nephelo Turbidity Meter. **07**
(b) Write the sources of Turbidity in river water. What is significance of turbidity? **07**
- Q.2** (a) Explain all components of UV-visible spectrophotometer with neat sketch. **07**
(b) Explain Lambert's and Beer's law. **07**
- OR**
- (b) Write the working principle of Ion Selective meter. **07**
- Q.3** (a) Explain Working principle of Flame photometer. Which parameters can be measured using flame photometer? **07**
(b) Write a short note on Gas Chromatograph. **07**
- OR**
- Q.3** (a) Give the difference between Raman Spectroscopy and Infrared Spectroscopy. **07**
(b) Write a short note on Mass Spectroscopy. **07**
- Q.4** (a) Which parameters are measured using conductivity meter? Explain working principle of conductivity meter in detail. **07**
(b) Write a short note on pH meter. **07**
- OR**
- Q.4** (a) Write the working principle of TOC analyzer. Explain different parts of TOC analyzer. **07**
(b) Write a short note on fundamentals principles of Spectroscopy. **07**
- Q.5** (a) Analyst reported the following percentage (%) of Chromium in a sample. **07**
19.66, 19.77, 19.60, 19.62, 19.58, 19.68 and 19.54. Calculate mean, medium, range, average deviation, relative deviation, standard deviation and co-efficient of variation.
(b) Write a short note on Frequency distribution curve. **07**
- OR**
- Q.5** (a) Write a short note on Solvent extraction methods of analysis. **07**
(b) Write a short note on Electrochemical cell. **07**
