

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-V (OLD) - EXAMINATION – SUMMER 2018**

**Subject Code:151302**

**Date:04/05/2018**

**Subject Name:Advanced Environmental Instrumentation**

**Time:02:30 PM to 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) What is Advanced Environmental Instrumentation? What is its importance? **07**  
(b) Write a short note on fundamental principles of Spectroscopy **07**
- Q.2** (a) What is Chromatography? Explain the principle and working of High Performance Liquid Chromatograph with sketch. **07**  
(b) Explain working principle of Flame photometer. Which parameters can be measured using flame photometer? **07**
- OR**
- (b) Write a short note on Ion-exchange Chromatography. **07**
- Q.3** (a) Derive and Explain Lambert's and Beer's law. **07**  
(b) Write a short note on TOC analyzer. **07**
- OR**
- Q.3** (a) Write a short note on Bio assay test. **07**  
(b) Write a short note on Conductivity Meter. **07**
- Q.4** (a) Explain Atomic Adsorption Spectroscopy in detail. **07**  
(b) Explain terms with examples : (i) Standard Deviation (ii) Relative Deviation **07**
- OR**
- Q.4** (a) Mention the environment significance of turbidity meter and method of determination **07**  
(b) Write a note on Accuracy and Precision **07**
- Q.5** (a) What is Mass Spectroscopy? Explain in detail. **07**  
(b) Write a short note on Nephelo Turbidity Meter with a neat sketch. **07**
- OR**
- Q.5** (a) Write a short note on P<sup>H</sup> meter and its application in Environmental Engineering field **07**  
(b) Write a note on UV-Visible Spectrophotometer **07**

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