



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA**  
**KAKINADA – 533 003, Andhra Pradesh, India**

**DEPARTMENT OF CIVIL ENGINEERING**

<b>II Year – II Semester</b>		<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
		<b>0</b>	<b>0</b>	<b>3</b>	<b>1.5</b>
<b>ENVIRONMENTAL ENGINEERING LAB</b>					

**Course Learning Objectives:**

The course will address the following:

- Estimation of important characteristics of water and wastewater in the laboratory
- Inference with reference to the significance of the characteristics of the water and wastewater

**Course Outcomes:**

Upon the successful completion of this course, the students will be able to:

- Estimate some important characteristics of water, wastewater and soil in the laboratory
- Draw some conclusion and decide whether the water is suitable for Drinking/Construction / Agriculture/ Industry.
- Estimate Chloride, EC and Salinity of Soil and suggest their suitability for Construction/Agriculture
- Estimation of the strength of the sewage in terms of BOD and COD and Decide whether the water body is polluted or not with reference to the stated parameters in the list of experiments
- Demonstration of various instruments used in testing of water and soil and study of Drinking water standards, WHO guidelines, Effluent standards and standards for Construction/ Agriculture/ Industry.

**List of Experiments**

1. Determination of pH and Electrical Conductivity (Salinity) of Water and Soil.
2. Determination and estimation of Total Hardness–Calcium & Magnesium in water.
3. Determination of P&M Alkalinity/Acidity
4. Determination of Chloride in water and soil
5. Determination and Estimation of total solids, organic solids and inorganic solids and Settleable Solids by Imhoff Cone.
6. Determination of Dissolved Oxygen with D.O. Meter & Wrinklers Method and BOD.
7. Physical parameters – Temperature, Color, Odor, Turbidity and Taste.
8. Determination of C.O.D.
9. Determination of Optimum coagulant dose- with and without coagulant aids
10. Determination of Chlorine residue and demand
11. Presumptive Coliform test.

