





# Environmental Engineering Laboratory



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The Environmental Engineering Laboratory offers useful insight into several important experimental techniques. Tests on several aspects of water quality, including PH, turbidity, conductivity, hardness, chlorides, sulphate alkalinity, etc. For UG students and research scholars, this lab is equipped with capabilities for sampling and analyzing water and wastewater for various physical, chemical, and microbiological parameters. In our environmental engineering laboratory, bacterial analysis can also be performed to examine a water sample.





S.No	Name of the Equipment	Description	Image
1	Digital pH Meter	A pH meter is an essential tool for accurately measuring the pH of various liquids, including water. A pH value is detected by the pH meter from the strength of the hydrogen ions present in the given solution. A pH value can be anything from 0-14. A solution that has a pH value below 7.0 is acidic and a pH greater than 7.0 is alkaline, or basic.	
2	Digital Conductivity Meter	Conductivity is the ability to measure the electrolytes in a solution. It is expressed as the conductance in a given amount of sample. Conductance is the capability of the solution to conduct electric current.	

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3	Digital D.O. Meter	The amount of dissolved oxygen in a liquid is measured using dissolved oxygen (DO) metres. Aeration, as a result of photosynthesis, and from the surrounding air all contribute to the presence of oxygen in water. Healthy bodies of water have at least 5 mg/L of dissolved oxygen.	
4	B.O.D. Incubator	A BOD (Biochemical Oxygen Demand) incubator is a specialized laboratory equipment used in measuring the amount of oxygen consumed by microorganisms in water or wastewater samples. The BOD test is a widely used method to determine the level of water pollution and the effectiveness of treatment processes.	

S.No	Name of the Equipment	Description	Image
5	Turbidity Meter	Turbidity meters are used to quickly measure the turbidity (or cloudiness) of water, caused by suspended solid particles. Nephelometric Turbidity Unit (NTU): NTU signifies that the instrument is measuring scattered light from the sample at a 90-degree angle from the incident light. NTU: is a standard unit of turbidity measurement, equivalent to FTU.	
6	C.O.D. Apparatus	COD Digestion Apparatus are used for determining Chemical Oxygen Demand in effluents like waste water, industrial water, sewage water which are discarded after processing. This help in understanding the real time presence of chemicals/gas in natural water bodies.	

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7	Muffle Furnace	Muffle Furnace is an extremely heated chamber, walls of which can radiantly heat the content which is kept inside so that material cannot have direct contact with the flame. These furnaces are often utilized in the testing laboratories as a means to create extremely high-temperature inside the chamber. They are employed to measure the characteristics of the materials at high and required temperatures. These instruments are utilized to measure the characteristics of the materials at extremely accurate and high temperatures.	
8	Water Bath	A water bath is laboratory equipment made from a container filled with heated water. It is used to incubate samples in water at a constant temperature over a long period of time.	

S.No	Name of the Equipment	Description	Image
9	Jar Test Apparatus	Jar Test Apparatus, commonly known as flocculates or flocculation testers, are used primarily in the water treatment and testing industry. Jar Test Apparatus allows efficient and economical flocculation, jar Test Flocculators are used for a uniform stirring of samples in a water testing laboratory.	 <p>The image shows a Jar Test Apparatus, a piece of laboratory equipment used for water treatment testing. It consists of a white base with four jars (beakers) mounted on top. A control panel is visible on the front, featuring a red power button, a digital display, and several knobs and switches. The apparatus is labeled 'Jar Test Apparatus' on the front panel.</p>
10	Spectra-Photo Meter	The spectrophotometer is an instrument which measures the amount of light that a sample absorbs. The spectrophotometer works by passing a light beam through a sample to measure the light intensity of a sample.	 <p>The image shows a Spectrophotometer, a laboratory instrument used to measure the intensity of light. It has a white body with a blue control panel. The panel includes a digital display showing '0.00', a 'WAVELENGTH' label, and several knobs and buttons. A sample holder is visible on the left side of the device.</p>