

20CE3551- ENVIRONMENTAL ENGINEERING LAB

Offering Branches	CE		
Course Category:	Professional core course	Credits:	1.5
Course Type:	Theory	Lecture-Tutorial-Practical:	0-0-3
Prerequisites:	20CE3401 - Environmental Engineering 20BS1254 - Chemistry of Materials lab	Continuous Evaluation:	15
		Semester End Evaluation:	35
		Total Marks:	50

Course Outcomes

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

CO1	Conduct the experimental testing of pH, turbidity, conductivity, total dissolved solids and alkalinity or acidity tests and understand their significance and application	K3
CO2	Conduct the experimental testing of Hardness, chlorides, total organic and inorganic solids tests in water and understand their significance and application	K3
CO3	Conduct the experimental testing of iron, nitrogen and optimum dosage of coagulant tests in water and understand their significance and application	K3
CO4	Test various waste water quality parameters DO, BOD & COD and understand their significance and application.	K3
CO5	Determine the chlorine demand and Understand the MPN Calculation.	K3

Contribution of Course Outcomes towards achievement of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3			3	3		2		2				3	2
CO2	3			3	3		2		2				3	2
CO3	3			3	3		2		2				3	2
CO4	3			3	3		2		2				3	2
CO5	3			3	3		2		2				3	2
Avg.	3			3	3		2		2				3	2

1- Low

2-Medium

3-High

Course Content

Experiment No.1	Determination of pH and Turbidity.	CO1
Experiment No.2	Determination of Conductivity and Total dissolved solids.	
Experiment No.3	Determination of Alkalinity/Acidity	
Experiment No.4	Determination of Hardness	CO2
Experiment No.5	Determination of Chlorides	
Experiment No.6	Determination and Estimation of total solids, organic solids and inorganic solids	
Experiment No.7	Determination of Iron.	CO3
Experiment No.8	Determination of Nitrogen	
Experiment No.9	Determination of Optimum coagulant dose.	
Experiment No.10	Determination of DO	CO4
Experiment No.11	Determination of B.O.D	
Experiment No.12	Determination of C.O.D	
Experiment No.13	Determination of Chlorine demand	CO5
Experiment No.14	MPN Test Calculation (Demo)	

Learning Resources

Text Books & Reference Manuals	1. Chemistry for Environmental Engineering by (4 th edition) by Sawyer and Mc. Carty, McGraw - Hill International Book Company, 1994.
---	--

	2. IS codes (testing) & (standard values) for water Standard Methods for Analysis of water and Waste Water – APHA
Reference Books	1. NME-ICT, MHRD, NITTTR Chennai
e- Resources & other digital material	1. https://nptel.ac.in/courses/105104102/ 2. https://nptel.ac.in/courses/105105048/