Course Type	Course Code	Name of Course	L	T	P	Credit
DP	NCEC535	Water Resources Engineering Laboratory - II	0	0	3	1.5

Course Objective
To gain an understanding of the fundamental principles of hydrology, ground water hydraulics, measurement devices and various energy dissipaters.
Learning Outcomes
Upon successful completion of this course, students will: • Develop basic knowledge of the discharge measurements and calibration of measurements devices in the open channel. • Understand the working and efficiency of various energy dissipators. • Understand the basic concepts of hydrology and ground water hydraulics and sediment transport.

Unit No.	Topics to be Covered	Contact Hours	Learning Outcome
1	Calibration of flow measurement devices	3	Understanding the calibration process of the measurement devices
2	Discharge measurements using VenturiFlume Model and weir	6	Knowledge on various methods for flow measurement in open channels
3	Study of efficiency of different types of energy dissipating structures	3	To understand the working and efficiency of various energy dissipation structures.
4	Experiments on the well hydraulics and ground water	12	To know the basics of ground water hydraulics
5	Experiments on incipient motion of sediment particles	3	To know the basics of sediment transport
6	Estimation of Manning's roughness coefficient	3	To understand the resistence to uniform flow
7	Determination of hydrograph after precipitation in Hydrology system equipment	3	To know the process and method of measuring runoff after precipitation by hydrograph
8	Measurement of Infiltration by Infiltrometer and evaporation by Pan evaporimeter	6	To understand the process of infiltration and evaporation and their quantification
9	Project	3	
	Total Contact Hours	**42**	

Text Books:

1. Manual for Water Resources Engineering Laboratory

Reference Books:

1. Respective Indian Standard/ International Standard Codes of Practices.