

# Lesson Plan for Irrigation Engineering

Name of the Faculty: Suresh Kumar

Discipline: Civil Engineering

Semester: 4th

Subject: Irrigation Engineering

Lesson Plan Duration: 15 weeks (from January 2026 to April 2026)

Workload (Lectures/Practical per week): Lectures – 03

Week	Lecture Day	Topic
1	1	Introduction: Definition and Necessity of Irrigation.
	2	Major, Medium, and Minor Irrigation Projects in India.
	3	Hydrology and Hydrological Cycle.
2	1	Rain Gauges: Automatic and Non-Automatic (Symons Rain Gauge).
	2	Methods of Estimating Average Rainfall (Arithmetic System).
	3	Runoff: Factors Affecting Runoff and Catchment Area.
3	1	Hydrograph and Basic Concept of Unit Hydrograph.
	2	Principal Crops in India and Their Water Requirements.
	3	Crop Seasons: Kharif and Rabi; Crop Period and Base Period.
4	1	Duty, Delta, and Their Relationship.
	2	Gross Command Area (GCA), Culturable Command Area (CCA), and Intensity of Irrigation.
	3	Methods of Irrigation: Flow and Lift Irrigation.
5	1	
	2	<b>Sessional Test 1 and Revision</b>
	3	
6	1	Drip Irrigation: Layout, Components, Advantages, and Disadvantages.
	2	Canals: Definition, Classification, and Appurtenances.
	3	Canal Lining: Types, Advantages, and Disadvantages.
7	1	Canal Breaches: Causes and Control.
	2	Maintenance of Lined and Unlined Canals.
	3	Canal Headworks: Objectives and General Layout of Different Parts.
8	1	Difference Between Weir and Barrage.
	2	Cross Drainage Works: Necessity and Types (Aqueducts and Superpassages).
	3	Types of Dams: Earth Dams - Causes of Failure and Cross-Section of Zoned Earth Dam.
9	1	
	2	<b>Sessional Test 2 and Revision</b>
	3	

Week	Lecture Day	Topic
10	1	Gravity Dams: Types, Cross-Section, and Method of Construction.
	2	Spillways: Concept, Types, and Energy Dissipators.
	3	Canal Falls, Outlets, and Escapes: Definitions and Functions.
11	1	River Training Works: Definition, Functions, and Types.
	2	Types of River Training Works: Groynes, Guide Banks, and Cut-Offs.
	3	Water Logging: Causes, Effects, and Prevention.
12	1	Soil Reclamation: Surface and Sub-Surface Drainage Systems.
	2	Water Harvesting Techniques: Need, Requirement, and Methods.
	3	Maintenance of Irrigation Structures and Automation in Irrigation.
13	1	Integrated Water Resource Management: Concepts and Benefits.
	2	Planning and Management of Small and Micro Dams.
	3	Final Discussions and Preparations.
14	1	<b>Sessional Test 3 and Revision</b>
	2	
	3	
15	1	Final Preparations for Exams.
	2	
	3	