

Course No.	CEL401			
Course Title	Irrigation Engineering			
Course Coordinator	Prof. D. J. Katyayan			
Slot in which offered. If not offered write N	Odd		Even	
			H	
Structure	Lecture	Tutorial	Practical	Credits
	3	0	2	8
Prerequisite Course Codes As per proposed Course Numbers				
Prerequisite credits				
Equivalent Course Codes. As per proposed courses and old courses				
Overlap course codes As per proposed Course Numbers				
Text Book (Max. 2)	Title	Irrigation Engineering		
	Author	Garg Santosh Kumar ;		
	Publisher	Khanna Publishers, New Delhi		
	Edition	2002		
	Title	Irrigation Engineering		
	Author	Aasawa G L		
	Publisher	Wiley Eastern Ltd.		
	Edition	1996		
Reference Books	Title	Engineering for Dams;		
	Author	Creager, Justin, Hinds;		
	Publisher			
	Edition	1995		
	Title	Design of Small Dams		
	Author			
	Publisher	U. S. B. R. Publication		
	Edition	1960		
	Title			
	Author			
	Publisher			
	Edition			
	Title			
Author				
Publisher				
Edition				

Content	<p>General : Necessity and importance, scope and development of Irrigation in India, Classification of Irrigation, Comparative study of different irrigation systems</p> <p>Quality of irrigation water, salt constituents and their effects, Soil moisture – Consumptive use, water requirements of crops Duty-Delta-Base period-Factors affecting duty – Duty for principal types of crops grown in India, reclamation of saline soil.</p> <p>Reservoir Planning & Management: Investigation-Selection of site – Detail surveys to be conducted and data collection– Determination of field and storage capacity – Determination of L.S.L. and F.R.L. of reservoir sedimentation B-C ratio</p> <p>Dams: Different types and their suitability – Factors governing the selection of type of dam for project.</p> <p>Gravity Dam: Forces acting on a gravity dam (including seismic load) – Stability requirement, Design & Construction aspects.</p> <p>Earthen Dams: Types of Earthen Dams – Factors and general Principles to be considered in the design.</p> <p>Failures of Earthen Dams – Seepage and drainage arrangement</p> <p>Weirs :Different types of weirs – Spillways – General principles of design – types, spillway gates – energy dissipation downstream of spillway.</p> <p>Different types of diversion weirs – Component parts of diversion headworks. Causes of failures of diversion, weirs – Weirs on permeable foundation with design principles. Blighs Creep theory, Khosla’s Theory, River Training, Guide banks, Groynes and spurs</p> <p>Irrigation Canals: Types – Design Principles of channels – water losses, sediments and their effects upon stream regime. Reservoir silting silt supporting theory, design of channel in alluvial soils based on silt theories – silt exclusion – silt control. Lining of canals, Water Logging & its Prevention: Drainage of land, methods.</p> <p>Types ,description of Canal Structures</p> <p>Cross Drainage Works : Types & general principles</p>
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