

Name of Faculty: Prof. Rashid Mustafa
Discipline: Civil Engineering (8th Semester)
Subject: Irrigation Engineering (011852)
Course Credit : 03

Subject Synopsis/ Indicative Syllabus	<p>Module1: Irrigation Principles and Practices: Introduction. Necessity, Advantages and disadvantages of irrigation, classification, method Irrigation.</p> <p>Module2: Soil water plant and Their Relationship: Soil Classification, Soil- water plant relation, soil moisture relationship, Water Requirement of Crops; Optimum Use of water, Factors affecting water requirement of crops, Duty, Delta; and their relationship. Water Requirement by inductive methods, Critical Coefficients Consumptive use of requirement by climatologically approach, FAO methods for Reference evapotranspiration.</p> <p>Module3: Irrigation Efficiencies.</p> <p>Module4: Irrigation Scheduling: for both Irrigated dry and irrigated wet crops, irrigation scheduling in command areas.</p> <p>Module5: Flow Irrigation: Classification of canals, Canals alignments, Components of permanent canal system, Canal capacity, canal losses, Lined channels & their design, Kennedy's slit theory and design of channels on its basis, Lacey's slit theory and regime equations, various types of relations, Design of channels based on Lacey's equation.</p> <p>Module6: Lift Irrigation: Classification, Location, Water lifting arrangement, Yield of wells.</p>
Gate Syllabus of Irrigation Engineering	Types of irrigation systems and methods; Crop water requirements - Duty, delta, evapo-transpiration; Gravity Dams and Spillways; Lined and unlined canals, Design of weirs on permeable foundation; cross drainage structures.

Reading List and References	<ol style="list-style-type: none">1. Fundamental of Irrigation Engineering by Bharat Singh, Nemchand Bros., Roorkee, Uttarakhand.2. Irrigation & Water Power Engineering by Punima B.C., Pande Lal B.B., Laxmi Publication Pvt. Ltd. New Delhi.3. Water Resource Engineering by Garg S.K., Khanna Publishers, New Delhi.4. Irrigation Theory & Practice by Micheal A.M., Vikas Publication, New Delhi
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