

**Module I****Chapter 1 : Gravity Dams****1-1 to 1-60****Syllabus :**

Definition, typical cross section, forces acting on gravity dam, modes of failure and structural stability analysis, profile of dam – elementary and practical profile, low and high gravity dam, design consideration and fixing of section of dam, methods of design, construction of galleries in dams, types of joints, temperature control in concrete dams, foundation treatment, Arch dams, types of arch dams

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Module II

Chapter 2 : Earth and Rock Fill Dams 2-1 to 2-33

Syllabus :

Types of earth dams, method of construction, causes and failures of earth dams, design criteria, selecting suitable preliminary section, seepage line for different conditions and its location, seepage control through embankment and through foundations, Swedish circle method with pore pressure, details of construction and maintenance, types of rock fill dams, stability analysis, advantages.

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Module III

Chapter 3 : Spillways and Flood Control Ways

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Syllabus :

Introduction, location of spillway, design consideration of main spillway, controlled and uncontrolled spillway, types of spillways, design principles of ogee spillway. Chute spillway. Siphon spillway and shaft spillway, energy dissipation below overflow and types of spillways, design of bucket type energy dissipater and stilling basin, flood mitigation reservoirs. Crest gates, types, advantages, design of radial gate, outlet works through dams, intake structures.

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Module IV

Chapter 4 : Irrigation Channels 4-1 to 4-20

Syllabus :

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Module V

Chapter 5 : Canal Head Works and Distribution System 5-1 to 5-29

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Module VI

Chapter 6 : Canal Structures

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