Water Resources Development

Course Contents

Sl. No.	Particulars	Contact Hours
1.	Occurrence of water on earth and its movement – the Hydrologic Cycle, surface and ground water, Importance of water resource management:	2
2.	Surface Water • Diversion and Storage Schemes • Single and Multipurpose Projects	2
3.	Diversion Schemes • Diversion Headworks-components and their functions • Distribution of water-canal systems • Basics of canal alignment and design • Types of canal works-falls, regulators, cross drainage works etc.	12
4.	Storage Schemes • Reservoir Planning o Preliminary Surveys o Mass curve o Flood Routing o Economic Considerations o Sedimentation o Environmental impact • Dams o Type of Dams and their suitability for different conditions o Basic design criteria and causes of failure • Spillways o Types and their characteristics o Terminal structures – energy dissipation	12
5.	Hydropower and related structures (water conductor system and powerhouse building)	4
6.	Special problems of hilly streams	2
7.	Ground Water • Occurrence and exploration • Classification of aquifers parameters • Pumping tests • Preliminary Well Hydraulics and discharge computations	6
8.	Decision Support Systems in water resources – preliminary concepts	2