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| Devi Ahilya University Indore, India Institute of Engineering & Technology | | | | III Year B.E. (Civil Engineering) (Full Time) | | | |
| Subject Code and Name | Instruction Hours Per Week | | | Credit | | | |
| 5VLRG3: Water Resources Engineering | L | T | P | L | T | P | Total |
| Duration of Theory Paper: 3 hours | 3 | 1 | - | 3 | 1 | - | 4 |

Course Objectives:

The course is designed

1. To understand the irrigation water requirement and soil-water-crop relationship
2. To learn about different methods of irrigation.
3. To learn about hydrological system
4. To study the different hydraulic structures.
5. To know about the flood control measures, economics of flood control,

COURSE CONTENTS

Unit – I

Irrigation Water Requirement and Soil-Water-Crop Relationship: Irrigation, definition, necessity, advantages and disadvantages, types and methods, Irrigation development.

Soils - Types and their occurrence, suitability for irrigation purposes, wilting coefficient and field capacity, optimum water supply, consumptive use and its determination. Irrigation methods surface and subsurface, sprinkler and drip irrigation.

Duty of water, factors affecting duty and methods to improve duty, suitability of water for irrigation, crops and crop seasons, principal crops and their water requirement, crop ratio and crop rotation, intensity of irrigation.

Unit – II

Ground Water and Well Irrigation: Confined and unconfined aquifers, aquifer properties, hydraulics of wells under steady flow conditions, infiltration galleries. Ground water recharge, necessity and methods of improving ground water storage.

Water logging- causes, effects and its prevention. Salt efflorescence causes and effects. Reclamation of water logged and salt affected lands. Type of wells, well construction, yield tests, specific capacity and specific yield, advantages and disadvantages of well irrigation.

