

### Specimen of lesson Plan

**Name of the Faculty** Ms. Renu  
**Discipline** CIVIL ENGG.  
**Semester** 4TH  
**Subject** IRRIGATION ENGINEERING  
**Lesson Plan Duration** 15 weeks(from January, 2018 to April,2018)

Week	Lecture Day	Theory Topic (including assignment/test)
1st	1st	Introduction:Definition of irrigation, Necessity of irrigation
	2nd	History of development of irrigation in India, Major, medium and minor irrigation projects
	3rd	Revision
	4th	Water Requirement of Crops:-Principal crops in India and their water requirements
2nd	5th	Crop seasons – Kharif and Rabi
	6th	Soil water, soil crop and water relationships,
	7th	duty, delta and base period, their relationship
	8th	Gross commanded area (GCA), culturable commanded area (CCA),
3rd	9th	intensity of irrigation, irrigable area
	10th	Hydrological Cycle Catchment Area and Run-off:-Rainfall , definition rain-gauges – automatic and non-automatic,
	11th	methods of estimating average rainfall (Arithmetic system)
	12th	catchment area runoff, factors affecting runoff,
4th	13th	hydrograph, basic concept of unit hydrograph.
	14th	Revision
	15th	Assignment

	16th	Methods of Irrigation:-Flow irrigation - its advantages and limitation
5th	17th	Lift Irrigation – Tube well and open well irrigation
	18th	Their advantages and disadvantages
	19th	Sprinkler irrigation conditions favourable and essential requirements for sprinkler irrigation,
	20th	sprinkler system – classification and component parts
6th	21st	Drip irrigation, suitability of drip irrigation,
	22nd	layout, component parts, advantages
	23rd	Revision
	24th	Canals:- Classification, apurtenancs of a canal and their functions,
7th	25th	Sketches of different canal cross-sections (unlined)
	26th	Various types of canal lining - their related advantages and disadvantages,
	27th	Various types of canal lining - their related advantages and disadvantages,
	28th	sketches of different lined canal x-sections
	29th	sketches of different lined canal x-sections
8th	30th	Breaches and their control
	31st	Maintenance of lined and unlined canals
	32nd	Revision
	33rd	Tube Well Irrigation:-Introduction, occurrence of ground water, location and command,
9th	34th	Advantages and disadvantages, comparison with canal irrigation
	35th	Tube wells, explanation of terms: water table, radius of influence, depression head, cone of depression
	36th	confined and unconfined aquifers. Yield of a well and methods of determining yield of well

	37th	Types of tube wells, cavity, strainer and slotted type;
10th	38th	Method of boring, installation of well assembly,
	39th	development of well, pump selection and installation and maintenance
	40th	Water Harvesting Techniques: Need and requirement of various methods, Run-off from roof top and ground surface
	41st	construction of recharge pits and recharge wells and their maintenance.
11th	42nd	Dams:- Classification of dams; earthen dams - types, causes of failure;
	43rd	crosssection of zoned earthen dams, method of construction
	44th	gravity dams – types, cross-sections of a dam, method of construction
12th	45th	Concept of small and micro dams
	46th	Concept of spillways and energy dissipator
	47th	Canal Head Works and Regulatory Works:-Definition, object, general layout, functions of different parts of head works.
	48th	Difference between weir and barrage
13th	49th	Cross Drainage Works:-Functions and necessity of the following types: aqueduct, super passage, level crossing, inlet and outlet, pipe crossing
	50th	Sketches of the above cross drainage works
	51st	Revision/Assignment
	52nd	Definitions of following Hydraulic Structures with Sketches:- Falls, Cross and head regulators
14th	53rd	Outlets, Canal Escapes
	54th	River Training Works:-Methods of river training, guide banks, retired (levees) embankments, groynes
	55th	Spurs, pitched island, cut-off
	56th	Water Logging and Drainage and Ground Water Re-charge:- Definition of water logging – its causes and effects, detection, prevention and remedies
15th	57th	Reclamation of soil,
	58th	Surface and sub-surface drains and their layout
	59th	Concept and various techniques used for ground water re-charge
	60th	Revision/Assignment