

NAME OF FACULTY :- MR. B.S CHAHAL  
 DICIPLINE :- CIVIL ENGG.  
 SEMESTER :- 4TH  
 SUBJECT :- IRRIGATION ENGG.  
 LESSON PLAN DURATION :- FROM JAN, 2018 to APRIL, 2018  
 WORK LOAD PER WEEK :- 4 Lecture/week

THEORY		
Week	Lecture Day	Topic
		Assignment/Test
1st	1	Definition of irrigation, Necessity of irrigation
	2	History of development of irrigation in India, Major, medium and minor irrigation projects
	3	Principal crops in India and their water requirements
	4	Crop seasons – Kharif and Rabi, Soil water, soil crop and crop water relationships
2nd	5	Duty, Delta and Base Period, their relationship, Gross commanded area (GCA)
	6	culturable commanded area (CCA), Intensity of Irrigation, Irrigable area
	7	Rainfall , definition rain-gauges – automatic and non-automatic
	8	methods of estimating average rainfall (Arithmetic system)
3rd	9	catchment area runoff, factors affecting runoff
	10	hydrograph, basic concept of unit hydrograph
	11	Flow irrigation - its advantages and limitations
4th	12	Lift Irrigation – Tubewell, submersible and well irrigation advantages and disadvantages
	13	Sprinkler irrigation conditions favourable and essential requirements for sprinkler irrigation
	14	sprinkler system – classification and component parts
	15	Drip irrigation, suitability of drip irrigation, layout, component parts, advantages
5th	16	Classification, apurtenancs of a canal and their functions, sketches of different canal cross-sections
	17	Various types of canal lining - their related advantages and disadvantages
	18	sketches of different lined canal x-sections
	19	Breaches and their control
6th	20	Maintenance of lined and unlined canals
	21	canal irrigation
	22	Tube wells, explanation of terms: water table, radius of influence, depression head, cone of depression
	23	confined and unconfined aquifers. Yield of a well and methods of determining yield of well
7th	24	Types of tube wells and their choice-cavity, strainer and slotted type
	25	maintenance
	26	Water Harvesting Techniques: Need and requirement of various methods, Run-off from roof top and ground surface
	27	construction of recharge pits and recharge wells and their maintenance
8th	28	Classification of dams; earth dams - types, causes of failure
	29	cross-section of zoned earth dam, method of construction
	30	gravity dams – types, cross-sections of a dam, method of construction
	31	Concept of small and micro dams
9th	32	Concept of spillways and energy dissipators
	33	Definition, object, general layout
	34	functions of different parts of head works
	35	functions of different parts of head works
10th	36	Difference between weir and barrage
	37	Functions and necessity of the following types: aqueduct
	38	Functions and necessity of the following types: aqueduct
	39	super passage, level crossing, inlet and outlet
11th	40	Sketches of the above cross drainage works
	41	Falls, Cross and head regulators
	42	Outlets , Canal Escapes
	43	Methods of river training, guide banks
12th	44	retired (levees) embankments, groynes
	45	spurs, pitched island, cut-off
	46	Definition of water logging – its causes and effects, detection, prevention and remedies
	47	Surface and sub-surface drains and their layout
	48	Concept and various techniques used for ground water re-charge