

GOVERNMENT POLYTECHNIC NAWADA

LESSON PLAN FOR IRRIGATION ENGINEERING (1615505)

Faculty Name- RAHUL

Branch – Civil Engineering

Semester-5th

WEEK	LECTURE/ DAY	TOPIC /ASSIGNMENT/ TEST
1	1	Introduction of Irrigation Engg. Definition – Irrigation and irrigation engineering, advantages of irrigation,
	2	Study of ill effects of over irrigation, types of types of irrigation project-purpose wise and administrative wise
	3	Methods of irrigation.
2	4	Discussion and test
	5	Hydrology Definition of rainfall , rain gauge and rain gauge station
	6	Study of types of rain gauges
3	7	Definition of run off , factor affecting run off
	8	Calculation of run off by run of coefficient
	9	Inglis' formula , Stranges and Binnie's tables and curves
4	10	Maximum flood discharge and methods of calculation
	11	Yeild and Dependable yield and methods of calculation.
	12	Discussion and test, doubt clarification
5	13	Water Requirement Of Crops Cropping seasons and crops,
	14	Definition – Crop period, base period Duty & Delta , factors affecting Duty ,
	15	relation between Duty Delta and base period
6	16	Definition – CCA , GCA, IA
	17	Intensity of irrigation time factor capacity factor.
	18	Problems on water requirement and capacity of canal.
7	19	Modified Penman method
	20	Assessment of irrigation water.
	21	Investigation And Reservoir Planning- Survey for irrigation project data collected
8	22	Area capacity curve,
	23	Silting of reservoir, rate of silting
	24	Factors affecting silting , methods to control levels
9	25	respective storage in reservoir
	26	Fixing control levels.
	27	Dams And Spillways Types of dams – Earthen dams and Gravity dams

10	28	Comparison of earthen and gravity dams with respect to foundation
	29	seepage, construction and maintenance Earthen Dams – Components and their function
	30	Typical cross section seepage through embankment
11	31	Foundation seepage control through embankment and foundation
	32	Methods of constructions of Earthen dam
	33	Types of failure of earthen dams and remedial measures.
12	34	Gravity Dams Theoretical and practical profile
	35	Typical cross section, drainage gallery.
	36	Joint in gravity dam, high dam and low dam
13	37	Spillways-Definition, function, location and components
	38	Ogee spillway and bar type spillway
	39	Spillway with and without gates
14	40	Test revision & discussion of Dams
	41	Bandhara , Percolation Tanks And Lift Irrigation- Advantages and disadvantages of bandhara irrigation layout
	42	component parts, solid and open bandhara
15	43	Percolation Tanks – necessity and importance, selection of site.
	44	Irrigation department standard design and specification.
	45	Diversion Head Works- Weirs – components parts, function and types
16	46	Layout of diversion head works with its components and their function
	47	Canal head regulator
	48	Study of Silt excluders
17	49	Study of Slit ejectors
	50	Barrages – components
	51	Components function of Barrages
18	52	Difference between weir and barrage
	53	Irrigation department standard design and specifications.
	54	Test and discussion
19	55	CANALS – classification of canals according to alignment and position in the canal network.
	56	Design of most economical canal section.
	57	Canal lining – Definition, purpose
20	58	Types of canal lining advantages of canal lining properties of good canal lining material
	59	CD. works- different C.D. works
	60	Study of Canal falls
21	61	Study of Canal escapes
	62	Study of cross regulators and canal outlets.
	63	Study of Canal outlets.
22	64	Assessment Test and discussion

