

### Detailed Teaching Plan

#### Topics to be covered

Lecture No.	Unit No	Topics to be covered	Planned Date	Execution Date
<b>UNIT-1 HYDROLOGY</b>				
1	1	Definition. Hydrologic cycle, the water budget equation, catchment area.	20/08/24	18/09/24
2		Precipitation, forms of precipitation, measurement of rainfall	22/08/24	19/09/24
3		rain gauge and types	23/08/24	
4		rain gauge density as per IS and WMO, computation of average rainfall over a basin	24/08/24	20/09/24
5		Losses from precipitation, Evaporation	24/08/24	21/09/24
6		infiltration, Runoff, factor affecting run off	29/08/24	23/09/24
7		Computation of runoff, Hydrograph	30/08/24	25/09/24
8		unit hydrograph, peak flow determination,	31/08/24	26/09/24
9		Stream flow measurement – area velocity method, weir method, stage discharge curve	02/09/24	27/09/24
<b>UNIT-2 Water requirements of crops</b>				
10		IRRIGATION: Definition, necessity, advantages, disadvantages	05/09/24	28/09/24
12		Types of irrigation, methods of irrigation	06/09/24	30/09/24
13		Functions and quality of irrigation water, crop period/ base period, duty, delta. Importance of duty	09/09/24	4/10/24
14		Factors on which duty depends, delta and duty for certain crops measures for improving duty of water	12/09/24 13/09/24	7/10/24
15		Relationship between duty and delta, and numerical problems, principal crops	14/09/24	11/10/24
16		Crop seasons, important terms, Functions of irrigation water	16/09/24	18/10/24
17		Classes and availability of soil water, soil moisture constants	19/09/24	19/10/24

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18	Limiting soil moisture conditions, consumptive use of water, estimating depth and frequency of irrigation on the basis of soil	20/9/24	24/10/24
19	Moisture regime concept irrigation efficiencies, crop rotation,	21/9/24	25/10/24
20	Assessment of irrigation water, Water logging: cause and control.	23/9/24	25/10/24
<b>UNIT-3 Reservoir Planning</b>			
21	Purposes of reservoir, classification of reservoir based on purpose	26/9/24	26/10/24
22	Investigation for reservoir planning, Engineering surveys	27/9/24	26/10/24
23	area elevation curve, storage elevation curve, Geological investigation	28/9/24	26/10/24
24	Hydrological investigation, factors affecting selection of site for a reservoir	30/9/24	09/11/24
25	Zones of storages and various water levels, storage capacity and yield of reservoir	03/10/24	09/11/24
	Various types of dam	04/10/24	
26	Various types of dam		<del>11/11/24</del>
27	Factors governing the selection of type of dam	05/10/24	11/11/24
28	Factors for selection of site for a dam	07/10/24	14/11/24
		10/10/24	14/11/24
<b>UNIT-4 Dams and spillway</b>			
29	Earthen Dams – Types of earth dam	11/10/24	16/11/24
30	causes of failure of earthen dams	14/10/24	18/11/24
31	criteria for safe design of earth dam, section of an earth dam, components and their function	18/10/24	18/11/24
32	seepage, control of seepage through embankment and foundation	19/10/24	20/11/24
33	construction of earth dam, equipments used in construction of earth dam.	21/10/24	20/11/24
	Gravity Dams – identification and definition of forces acting on a gravity dam, modes of failure	24/10/24	21/11/24
34	criteria for structural stability of gravity dam, elementary and practical profile	26/10/24	21/11/24

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35	typical cross section, drainage gallery, joints in gravity dam, control of cracking in concrete dams, construction of gravity dam.	28/10/24	22/11/24
36	Spillways-Definition, function, location straight drop spillway, ogee spillway, side channel spillway	04/11/24	22/11/24
37	trough spillway, conduit spillway, shaft spillway, siphon spillway, spillway crest gates.	09/11/24	23/11/24
38	Comparison of earthen and gravity dams with respect to foundation, seepage, construction and maintenance	14/11/24 14/11/24	23/11/24
<b>UNIT-5 Diversion Headwork and canal irrigation system</b>			
39	Diversion weir and its types, location of diversion headworks, causes of failure of weirs and its remedy	16/11/24 18/11/24	25/11/24
40	Types of regulation at head regulator, silt control at headworks.	21/11/24	25/11/24
41	Classification of canals, alignment of canal, general considerations for alignment	22/11/24	28/11/24
42	Schedule of area statistics, cross section of canal, maintenance of irrigation channels	23/11/24	28/11/24
43	Water logging-causes, ill effects and remedial measure, canal losses, canal lining-necessity and advantages.	25/11/24	04/12/24
44	Canal Outlets - requirements of canal outlets, types of outlets, non-modular pipe outlet	28/11/24 29/11/24	04/12/24
45	Flexible pipe outlet, Gibb's rigid module	30/11/24	05/12/24
46	Canal regulation works, canal falls-necessity and location, head regulators and cross regulators, canal escapes	02/12/24	05/12/24
47	Types of cross drainage works, selection of type of cross drainage work, aqueduct and siphon aqueduct	05/12/24	05/12/24

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