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JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA
DEPARTMENT OF CIVIL ENGINEERING
LESSON PLAN
PROGRAMME: DIPLOMA IN CIVIL ENGINEERING

SUBJECT: HYDRAULIC & IRRIGATION ENGINEERING, *Course code - Th-2*
NAME OF THE FACULTY: SRI AMIT KUMAR SAHU
MISS JYOTSHNARANI RAUTA

SEMESTER: 6th sem.

CHAPTER	WEEK NO.	CLASS DAY	LECTURE NO.	TOPICS TO BE COVERED
1	W1			HYDROSTATICS:
		1	1	1.1 Properties Of Fluid :Density, Specific Gravity, Surface Tension,
		2	2	Capillarity, Viscosity And Their Uses
		3	3	Problem Practice
		4	4	Revision
	W2	5	5	1.2 Pressure and its measurements: Intensity Of Pressure, Atmospheric Pressure
		6	6	Gauge Pressure, Absolute Pressure And Vacuum Pressure;
		7	7	Problem Practice
		8	8	Relationship Between Atmospheric Pressure, Absolute Pressure And Gauge Pressure;
		9	9	pressure head; pressure gauges, Problem practice

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CHAPTER	WEEK NO.	CLASS DAY	LECTURE NO.	TOPICSTOBECOVERED
3	W6	24	24	2.3 Types Of Flow Through The Pipes: Uniform And Non Uniform Flow,Laminar And Turbulent; Flow
		25	25	Steady And Unsteady Flow; Reynolds's Number
		26	26	2.4 Losses Of Head Of A Liquid Flowing Through Pipes: Different types of major and minor losses.
		27	27	Darcy's equation,problems on losses due to friction
		28	28	Total energy lines & hydraulic gradient lines
	W7	29	29	2.5 Flow through the Open Channels: Types of channel sections-rectangular, trapezoidal and circular, Discharge Formulae- Chezy'sAnd Manning's Equation
		31	31	3.1 Type of pumps
		32	32	3.2 Centrifugal pump: Basic Principles, Operation, Discharge,
		33	33	3.3 Reciprocating pumps: Types, Operation, Discharge,

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CHAPTER	WEEK NO.	CLASS DAY	LECTURE NO.	TOPICSTOBECOVERED
1	W8			B.IRRIGATION ENGINEERING
		34	34	1.1 Hydrology Cycle
		35	35	1.2 Rainfall: Types, Intensity, Hyetograph
		36	36	1.3 Estimation Of Rainfall, Rain Gauges, Its Types
		37	37	1.4 Concept Of Catchment Area, Types,
		38	38	Run-Off, Estimation Of Flood Discharge By Dicken's And Ryve's Formulae
2.	W9	39	39	Water Requirement Of Crops 2.1 Definition , Necessity, Benefits Of Irrigation, Types Of Irrigation
		40	40	Types Of Irrigation
		41	41	2.2 Crop Season
		42	42	2.3 Duty, Delta And Base Period Their Relationship, Kharif And Rabi Crops
		43	43	2.4 GCA, CCA, Intensity Of Irrigation, , Time Factor, Crop Ratio

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CHAPTER	WEEK NO.	CLASS DAY	LECTURE NO.	TOPICS TO BE COVERED
3	W10	44	44	Flow Irrigation
		45	45	3.1 Canal Irrigation, Types Of Canals, loss of water in canals
		46	46	3.2 Perennial Irrigation
		47	47	3.3 Irrigation Canals And Their Functions
		48	48	3.4 Canal Cross-Sections
4	W11	49	49	3.5 Classification Of Canals
		50	50	Various Types Of Canal Lining
		51	51	Advantages and disadvantages Canal Lining
		52	52	WATER LOGGING AND DRAINAGE :
		53	53	4.1 Causes and effects of water logging Detection, prevention an remedies of water logging

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CHAPTER	WEEK NO.	CLASS DAY	LECTURE NO.	TOPICSTOBECOVERED
5.	W12	54	54	Diversion Head Works 5.1 Necessity And Objectives
		55	55	5.2 Weirs And Barrages
		56	56	5.3 Silting And Scouring
		57	57	5.4 Functions Of Regulatory Structures
6.	W13	58	58	CROSS DRAINAGE WORKS: 6.1 Functions And Necessity Aqueduct
		59	59	Functions And Necessity Super passage,
		60	60	Functions And Necessity Level Crossing
		61	61	Functions And Necessity Siphon,
		62	62	6.2 Neat Sketch Super passage, Level Crossing, Siphon, Aqueduct

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CHAPTER	WEEK NO.	CLASS DAY	LECTURE NO.	TOPICSTOBECOVERED
7.	W14	63	63	DAMS
		64	64	7.1 Necessity Of Storage Reservoirs, Types Of Dams Types Of Dams
		65	65	7.2 Earthen Dams: Types, Description
		66	66	Causes Of Failure And Protection Measures.
		67	67	7.3 Gravity Dam- Types, Description,
	W15	68	68	Causes Of Failure And Protection Measures.
		69	69	7.4 Spillways- Types And Necessity.
		70	70	PYQ
		71	71	PYQ
		72	72	Revision

SIGNATURE OF THE FACULTY (S)

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