

Lesson Plan

Subject- Hydraulic & Irrigation Engg.(Code) TH-2

Name of faculty:- Tina Guru

Semester :-4th

Class allotted- 75

Branch :- Civil engg.

Discipline	Semester:-	From date:-16/01/2024 Todate:26/04/2024	Teaching Aid
Subject:	No. of days/ per week Sp/w :	Theory/ Practical –Topics/Lesson	
Week	Date/Period		

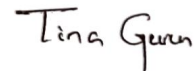
1	16/01/2024 to 20/01/2024	PART: A (Hydraulics) 1 HYDROSTATICS: 1.1 Properties of fluid: density, specific gravity, surface tension, capillarity, viscosity and their uses 1.2 Pressure and its measurements: intensity of pressure, atmospheric pressure, gauge pressure, absolute pressure and vacuum pressure; relationship between atmospheric pressure, absolute pressure and gauge pressure; pressure head; pressure gauges.	White board & marker
2	22/01/2024 to 27/01/2024	1.3 Pressure exerted on an immersed surface: Total pressure, resultant pressure, expression for total pressure exerted on horizontal & vertical surface. 2 KINEMATICS OF FLUID FLOW: 2.1 Basic equation of fluid flow and their application: Rate of discharge, equation of continuity of liquid flow, total energy of a liquid in motion- potential, kinetic & pressure, Bernoulli's theorem and its limitations. Practical applications of Bernoulli's equation	White board & marker
3	29/01/2024 to 03/02/2024	2.2 Flow over Notches and Weirs: Notches, Weirs, types of notches and weirs, Discharge through different types of notches and weirs-their application (No Derivation) 2.3 Types of flow through the pipes: uniform and non uniform; laminar and turbulent; steady and unsteady; Reynold's number and its application 2.4 Losses of head of a liquid flowing through pipes: Different types of major and minor losses. Simple numerical	White board & marker

		problems on losses due to friction using Darcy's equation, Total energy lines & hydraulic gradient lines (Concept Only)..	
4	05/02/2024 to 10/02/2024	2.5 Flow through the Open Channels: Types of channel sections-rectangular, trapezoidal and circular, discharge formulae- Chezy's and Manning's equation, Best economical section. 3 PUMPS: 3.1 Type of pumps 3.2 Centrifugal pump: basic principles, operation, discharge, horse power & efficiency. 3.3 Reciprocating pumps: types, operation, discharge, horse power & efficiency	White board & marker
5	12/02/2024 To 17/02/2024	PART: B (Irrigation Engineering) 1 Hydrology 1 1 Hydrology Cycle 1.2 Rainfall: types, intensity, hyetograph	White board & marker
6	19/02/2024 To 24/02/2024	1.3 Estimation of rainfall, rain gauges, Its types(concept only), 1.4 Concept of catchment area, types, run-off, estimation of flood discharge by Dicken's and Ryve's formulae	White board & marker
7	26/02/2024 To 02/03/2024	2 Water Requirement of Crops 2.1 Definition of irrigation, necessity, benefits of irrigation, types of irrigation 2.2 Crop season 2.3 Duty, Delta and base period their relationship, overlap allowance, kharif and rabi crops 2.4 Gross command area, culturable command area, Intensity of Irrigation, irrigable area, time factor, crop ratio	White board & marker
8	04/03/2024 To 09/03/2024	3 FLOW IRRIGATION 3.1 Canal irrigation, types of canals, loss of water in canals 3.2 Perennial irrigation 3.3 Different components of irrigation canals and their functions 3.4 Sketches of different canal cross-sections 3.5 Classification of canals according to their alignment, Various types of canal lining – Advantages and disadvantages	White board & marker
9	11/03/2024	4 WATER LOGGING AND DRAINAGE :	White board &

	To 16/03/2024	4.1 Causes and effects of water logging, detection, prevention and remedies	marker
10	18/03/2024 To 23/03/2024	5 DIVERSION HEAD WORKS AND REGULATORY STRUCTURES 5.1 Necessity and objectives of diversion head works, weirs and barrages 5.2 General layout, functions of different parts of barrage	White board & marker
11	27/03/2024 To 30/03/2024	5.3 Silting and scouring 5.4 Functions of regulatory structures	White board & marker
12	02/04/2024 To 06/04/2024	6 CROSS DRAINAGE WORKS 6.1 Functions and necessity of Cross drainage works - aqueduct, siphon, superpassage, level crossing	White board & marker & smart board
13	08/04/2024 To 13/04/2024	6.2 Concept of each with help of neat sketch	White board & marker
14	15/04/2024 To 20/04/2024	7 DAMS 7.1 Necessity of storage reservoirs, types of dams 7.2 Earthen dams: types, description, causes of failure and protection measures.	White board & marker
15	22/04/2024 ,to 26/04/2024	7.3 Gravity dam- types, description, Causes of failure and protection measures. 7.4 Spillways- Types (With Sketch) and necessity.	White board & marker & smart board



Signature of HOD



Signature of faculty