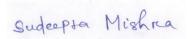
PNS SCHOOL OF ENGINEERING & TECHNOLOGY

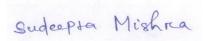
LESSION PLAN

BRANCH-CIVI	SEMESTER-5th	NAME OF THE FACULTY-SUDEEPTA MISHRA
SUBJECT- WATER SUPPLY AND WASTE WATER ENGINEERIN G	NO OF DAYS PER WEEK -6 CLASS ALLOTTED- 60	SEMESTER FROM-01/08/2023 TO 30/11/2023
WEEK	CLASS DAY	THEORY TOPIC
		Introduction to Water Supply, Quantity and Quality of wate-
	2ND	Necessity of treated water supply
AUGUST-1ST	3RD	Per capita demand, variation in demand and factors affecting demand
7.0003. 10.		
	4TH	Methods of forecasting population, Numerical problems using different methods
	5TH	CONTINUING AND END
	1ST	Impurities in water – organic and inorganic, Harmful effects of impurities
	2ND	Analysis of water –physical, chemical and bacteriological
	3RD	Water quality standards for different uses
2ND	<u> </u>	Sources and Conveyance of water-
	4TH	Surface sources – Lake, stream, river and impounded reservoir
		Underground sources – aquifer type & occurrence – Infiltration gallery, infiltration
	5TH	well, springs, well
		Yield from well- method s of determination, Numerical problems using yield
255	1ST	formulae (deduction excluded)
3RD	3RD	Intakes – types, description of river intake, reservoir intake, canal intake
	4TH	Pumps for conveyance & distribution – types, selection, installation
	5TH	Pipe materials – necessity, suitability, merits & demerits of each type
	467	Pipe joints – necessity, types of joints, suitability, methods of jointing
	1ST	Laying of pipes – method
		Treatment of water -
	2010	Treatment process / units :
	2ND	3.2.1 Aeration; Necessity
4TH	200	Plain Sedimentation: Necessity, working principles, Sedimentation
	3RD	tanks – types, essential features, operation & maintenance
		Codimentation with coordination, Necessity, principles of an evilation
	47.1	Sedimentation with coagulation: Necessity, principles of coagulation
	4TH	, types of coagulants, Flash Mixer, Flocculator, Clarifier (Definition and concept only)
	ET.,	Filtration: Necessity, principles, types of filters
	5TH	Slow Sand Filter, Rapid Sand Filter and Pressure Filter – essential features

SEPTEMBER-		Disinfection : Necessity, methods of disinfection
1ST	5TH	Chlorination – free and combined chlorine demand, available chlorine,
	3111	Softening of water – Necessity, Methods of softening – Lime soda
		process and Ion exchange method (Concept Only)
2ND	1ST	
	4TH	ITS CONITINING
	5TH	ITS CONTINUING AND END
	3111	Distribution system And Appurtenance in distribution system:-
		General requirements, types of distribution system-gravity, direct and
	1ST	combined
-	2ND	Methods of supply – intermittent and continuous
3RD —	3RD	Distribution system layout – types, comparison, suitability
	3112	Valves-types, features, uses, purpose-sluice valves, check valves, air valves,
	4TH	scour valves, Fire hydrants, Water meters
_	5TH	ITS CONTINUING AND END
	3111	W/s plumbing in building :
4TH	1ST	Method of connection from water mains to building supply
	101	General layout of plumbing arrangement for water supply in single storied and
	1ST	multi-storied building as per I.S. code.
		WASTE WATER ENGINEERING-
		Introduction
5TH	2ND	Aims and objectives of sanitary engineering
	3RD	Definition of terms related to sanitary engineering
	3112	Systems of collection of wastes— Conservancy and Water Carriage System —
	4TH	features, comparison, suitability
		Quantity and Quality of sewage-
		Quantity of sanitary sewage – domestic & industrial sewage, variation in sewage
OCTOBER-	3RD	flow, numerical problem on computation quantity of sanitary sewage
1ST —		Computation of size of sewer, application of Chazy's formula, Limiting velocities
	4TH	of flow : self-cleaning and scouring
		General importance, strength of sewage, Characteristics of sewage-physical,
	1ST	chemical & biologica
		Concept of sewage-sampling, tests for – solids, pH, dissolved oxygen, BOD,
	2ND	COD
3ND		Sewerage system -
2ND		Types of system-separate, combined, partially separate, features, comparison
	3RD	between the types, suitability
	4TH	Shapes of sewer – rectangular, circular, avoid-features, suitability
		Laying of sewer-setting out sewer alignment
	5TH	
		Sewer appurtenances and Sewage Disposal:
200	1ST	Manholes and Lamp holes – types, features, location, function
3RD	2ND	Inlets, Grease & oil trap – features, location, function
	3RD	Storm regulator, inverted siphon – features, location, function
		Disposal on land – sewage farming, sewage application and dosing,
5TH	1ST	sewage sickness-causes and remedies
эіп		Disposal by dilution – standards for disposal in different types of water bodies,
	2ND	self purification of stream
		Sewage treatment :-
NOVEMBER-	3RD	Principles of treatment, flow diagram of conventional treatment
1ST	4TH	Primary treatment – necessity, principles, essential features, functions

Ī		
	5TH	Secondary treatment – necessity, principles, essential features, functions
2ND		Sanitary plumbing for building :-
		Requirements of building drainage, layout of lavatory blocks in residential
	1ST	buildings, layout of building drainage
		Plumbing arrangement of single storied & multi storied building as per I.S. code
	2ND	practice
		3 Sanitary fixtures – features, function, and maintenance and fixing of the
		fixtures – water closets, flushing cisterns, urinals, inspection chambers, traps,
	3RD	antisyphonage pipe
	4TH	ITS CONTINUING AND END
	5TH	IMPORTANT QUESTIONS AND ANSWER DISSCUSSION
	2ND	IMPORTANT QUESTIONS AND ANSWER DISSCUSSION
3RD	3RD	IMPORTANT QUESTIONS AND ANSWER DISSCUSSION
300	4TH	IMPORTANT QUESTIONS AND ANSWER DISSCUSSION
	5TH	IMPORTANT QUESTIONS AND ANSWER DISSCUSSION
4TH	1ST	REVESION
	2ND	REVESION
	3RD	REVESION
	4TH	REVESION
	5TH	REVESION
	2ND	REVESION
5TH	3RD	REVESION
	4TH	REVESION





sign of lecture sign of hod