

DISCIPLINE: Civil Engg. Subject: Water Supply & Waste Water Engg. Weeks	Semester: 5th No. of Days/Week Class Allotted: 06 Class Day	Name of Teaching Faculty: En. Praveesh Chandra Nayak Semester From: 15.09.2022 to 22.12.2022 No. of Weeks: 15 Theory.
12.09.2022 to 17.09.2022	1st 2nd 3rd 4th 5th 6th	Necessity of treated water supply Per capita demand, variation in demand and factors affecting demand. ← BISWAKARMA PUJA →
19.09.2022 to 24.09.2022	1st 2nd 3rd 4th 5th 6th 1st 2nd	Methods of forecasting population numerical problems using different methods. continuing..... Impurities in water - Physical, chemical, organic, inorganic Harmful effects of impurities Analysis of water: Physical, chemical and bacteriological Water Quality Standards for different use. Surface Sources: Lake, Stream, river and Impounded Reservoir continuing. underground Sources: Aquifer type & occurrence - Infiltration gallery, Infiltration well, Springs, Well.
26.09.2022 to 1.10.2022	3rd 4th 5th	continuing. Yield from well - Methods of determination, numerical problems using yield formulae (deduction excluded). Intakes: Types, description of river intake, Reservoir intake, canals lake

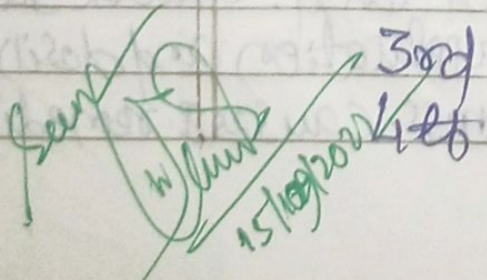
Week	class Day	Theory
	6th	continuing
03.10.2022 to 08.10.2022	1st	
	2nd	
	3rd	
	4th	
	5th	
	6th	
	1st	Pumps for conveyance & distribution - Types, Selection, Installation.
10.10.2022 to	2nd	Pipe material - necessity, suitability, merits & demerits of each type
	3rd	Continuing....
15.10.2022	4th	Pipe Joints - necessity, types of joints, suitability, methods of jointing. Laying of Pipes - method.
	5th	Continuing.....
	6th	Flow diagram of conventional water treatment system.
	1st	<u>Treatment Process/units:</u> Aeration: Necessity.
17.10.2022 to	2nd	Plain Sedimentation: Necessity, Working Principles.
	3rd	Sedimentation tanks: Types, essential features & operation & maintenance
22.10.2022	4th	Continuing.
	5th	Sedimentation with Coagulation: Necessity, Principles of coagulation, Types of coagulants, Flash mixer
	6th	Flocculator, clarifier Def & concept only)

Week	Class Day	Theory
	5th	Filtration: Necessity, Principles Types of filters: Slow sand filter Rapid sand filter & Pressure filter essential features.
	6th	Continuing.....
	1st	← DIWALI →
	2nd	
24.10.2022 to 29.10.2022	3rd	Disinfection: Necessity, methods of disinfection Chlorination: Free & combined chlo- rine demand, available chlorine, residual chlorine, Pre-chlorination, Break Point chlorination, Super-chlori- nation.
	4th	continuing.
	5th	Softening of water - Necessity methods of softening - Lime soda pro- cess and ion exchange method (con- cept only)
	6th	continuing.
	1st	Distribution process and Appurten- ance in distribution system general requirements, Types of distri- bution system - gravity, direct and combined.
	2nd	Methods of Supply - intermittent & continuous.
31.10.2022 to 05.11.2022	3rd	Distribution system layout - types comparison, Suitability
	4th	Valves - types, features, uses, Pur- pose - Sluice valves, Check valves air valves, Scour valves, Fire hydrants, Water meters

Week	Class Day	Theory
	5th	W/S Plumbing in building:
	6th	Methods of connection from water mains to building supply.
	1st	← Last Monday of Kartika. →
	2nd	← Rasha Purnima →
07.11.2022	3rd	General layout of plumbing arrangement for water supply in single storied and multi-storied building as per I.S. Code
to		
12.11.2022		
	4th	Continuing.....
	5th	Continuing.....
	6th	Aims & objectives of Sanitary engineering
	1st	Def ⁿ of terms related to Sanitary engineering
14.11.2022	2nd	Systems of collection of wastes - Conservancy and water carriage system - features, comparison, suitability.
to		
19.11.2022		
	3rd	← Prathamastami →
	4th	Continuing.
	5th	Quantity and Quality of Sewage
	6th	Continuing.....
	1st	Quantity of Sanitary Sewage - domestic & industrial Sewage, variation in sewage flow, Numerical problems.
21.11.2022		
to	2nd	Continuing.....
26.11.2022	3rd	Computation quantity quantity of sanitary sewage.
	4th	Computation of size of sewer application of Chazy's formula.

Week	class day	Theory.
		Limiting velocities of flow: Self cleaning and scouring
	5th	continuing....
	6th	General importance, strength of sewage, characteristics of sewage-physical, chemical & biological
	1st	continuing.....
	2nd	concept of sewage-sampling, tests for-solids, PH, dissolved organ, BOD, COD.
28.11.2022	3rd	Sewerage System
to	4th	Types of system-separate, combined, partially separate, features, comparison bet ⁿ the types, suitability.
03.12.2022	5th	Shapes of sewer-Rectangular, circular, a void-features, suitability.
	6th	Laying of sewer-Setting out sewer alignment.
	1st	continuing.....
	2nd	Manholes & Lamp holes - types, features, location, function
	3rd	Inlets, Grease & oil trap-features, location, function.
05.12.2022	4th	← Last Thursday of Margasira →
to	5th	
10.12.2022	6th	
		storm regulator, inverted siphon - features, location, function
		Disposal of land: Sewage farming sewage application and dosing, sewage sickness- causes & remedies.

Week	Class Day	Theory
	1st	Disposal by dilution - Standards for disposal in different types of water bodies, Self Purification of Stream.
	2nd	Principles of treatment, flow diagram of conventional treatment
12.12.2022 to 17.12.2022	3rd	Primary treatment - necessity, principles, essential features, functions.
	4th	Secondary treatment - necessity, principles, essential features, functions.
	5th	continuing
	6th	Requirements of building drainage, layout of laboratory blocks in residential buildings, layout of building drainage.
	1st	Plumbing arrangement of single storied & multi storied building as per I.S. Code practice.
19.12.2022 to 22.12.2022	2nd	Sanitary fixtures - features, functions and maintenance and fixing of the fixtures water closets, flushing systems, urinals, inspection chambers, traps, anti-siphonage pipe.
	3rd	continuing: - - -



 15/12/2022