



RAAJDHANI ENGINEERING COLLEGE, BHUBANESWAR

LESSON PLAN Session (2023-2024)

Discipline: Civil Engineering	Semester: 5th	Name of the Faculty: Prof. Achintaya Sahoo
Subject: Water Supply & Waste Water Engg.	No. of Days/week: 04	Session : Sep 2023- Jan 2024

Week	Class Day	Theory Topics	References
1st	1st	Necessity of treated water supply and historical development.	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	Water requirements, per capita demand.	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	3rd	Variation in demand, factors affecting demand.	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Methods of forecasting population, Numerical problems.	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
2nd	1st	Problem practice	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	Surface sources, underground sources.	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	3rd	Infiltration gallery and Infiltration Well	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Yield from a well, problem solving	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
3rd	1st	Doubt clearing class	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/

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	2nd	Sinking of well, well component, well development, maintenance and well pump.	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	3rd	Impurities in water, harmful effects.	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Analysis of water, water quality standards	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
4th	1st	Doubt clearing class	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	Intake sand pipe materials	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	3rd	Pipe joint, pipe laying and pipe corrosion	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Doubt clearing class	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
5th	1st	Flow diagram of water treatment system and treatment process	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	Plain sedimentation, sedimentation with coagulation	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	3rd	Filtration of water	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Disinfection of water	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
6th	1st	Miscellaneous treatment methods	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/

	2nd	Chemical requirements, softening, numerical problems	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	3rd	Types of distribution system, methods of supply	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Maintenance and numerical problems on size of pipes.	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
7th	1st	Storage, distribution system layout ,loss and wastage	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	Doubt clearing class	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	3rd	Appurtenances in distribution system	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	w/s plumbing in building	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
8 th	1st	Introduction to sanitary Engg. Aims, objectives and definition of terms.	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	System of collection of wastes	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	3rd	Quantity of sanitary sewage and numerical problems.	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Computation of size of sewers and problem practice	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
9 th	1st	Types of sewerage system, shape of sewer and sewer materials.	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	Laying of sewer and sewer appurtenances.	https://archive.nptel.ac.in/courses/105/106/105106119/

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	3rd	Sewage characteristics	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Analysis of sewage	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
10 th	1st	C,N, S – cycle	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	Doubt clearing class	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	3rd	Sewage disposal on land	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Sewage disposal by dilution	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
11 th	1st	Principle and flow diagram of sewage treatment	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	Primary treatment	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	3rd	Oxidation ditch	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Trickling filter	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
12 th	1st	Secondary treatment	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	Doubt clearing class(sewage disposal on land, by dilution)	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/

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	3rd	Doubt clearing class(primary treatment, oxidation ditch)	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Doubt clearing class(Trickling filter, secondary treatment)	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
13 th	1st	Previous year question discussion(2020,2019) on water supply	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	Previous year question discussion(2018,2017) on water supply	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	3rd	Previous year question discussion(2016,2015) on water supply	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Previous year question discussion(2014,2013) on water supply	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
14 th	1st	Previous year question discussion(2020,2019) on waste water	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	Previous year question discussion(2018,2017)on waste water	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	3rd	Previous year question discussion(2016,2015) on waste water	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Previous year question discussion(2014,2013) on wastewater	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
15 th	1st	Doubt clearing class(numerical related to population, forecasting)	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	2nd	Doubt clearing class(numerical related to yield)	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/

	3rd	Doubt clearing class(Water supply system)	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/
	4th	Doubt clearing class(Waste water engineering)	https://archive.nptel.ac.in/courses/105/106/105106119/ https://archive.nptel.ac.in/courses/105/105/105105201/