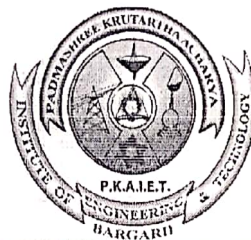


PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN Session-2022-2023

Discipline: Civil Engineering Engg. Semester: 5th

Name of the Teaching Faculty: Bikramaditya Bagh

Subject: WS & WVENo. of Days/per week class allotted 05Semester From Date : 15/09/2022 To Date : 22/12/2022 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
1	1st	Introduction to water supply, Quantity and Quality of water Necessity of treated water supply
	2nd	Per capita demand, variation in demand
	3rd	Factors affecting demand
	4th	Methods of forecasting population
	5th	Numerical problems using different methods
2	1st	Impurities in water - organic and inorganic
	2nd	Harmful effects of impurities
	3rd	Analysis of water - physical
	4th	chemical and bacteriological
	5th	Water quality standards for different uses
3	1st	Source and Conveyance of water surface sources - Lake, stream, river and impounded reservoir
	2nd	Underground sources - aquifer type & occurrence infiltration gallery, infiltration well, spring well

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Subject: WS & WWF No. of Days/per week class allotted 05

Semester From Date : 15/09/2022 To Date : 22/12/2022 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
	3 rd	Yield from well - method of determination
	4 th	Numerical problems using yield formulae
	5 th	Intake - types, description of river intake, reservoir intake, canal intake
4	1 st	pumps box conveyance & distribution - types, selection, installation
	2 nd	pipe materials - necessity, suitability, merits & demerits of each type
	3 rd	pipe joints - necessity, types of joints, suitability, methods of jointing, laying of pipes - method
	4 th	Treatment of water Flow diagram of conventional water treatment system
	5 th	Aeration, Necessity
5	1 st	plain sedimentation: Necessity, working principles
	2 nd	Sedimentation tanks - types, essential features operation & maintenance
	3 rd	Sedimentation with coagulation: Necessity, principles of coagulations
	4 th	Types of coagulants, Flash mixer, Flocculator, clarifiers

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Subject: WS&WWE No. of Days/per week class allotted 05

Semester From Date : 15/09/2022 To Date : 22/12/2022 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
	5th	Filtration: Necessity, types of filters
6	1st	principles of filtration, types of filters essential features
	2nd	Disinfection: Necessity, method of disinfection chlorination - free and combined chlorine demand
	3rd	available chlorine, residual chlorine, pre-chlorination breakpoint chlorination, super-chlorination
	4th	softening of water - Necessity, methods of softening
	5th	Lime soda process and ion exchange method
7	1st	Distribution system and appurtenance in distribution system, General requirements, types of distribution system, gravity
	2nd	direct and combined system
	3rd	Method of supply - intermittent
	4th	continuous, Distribution system layout
	5th	types of layout, comparison, suitability
8	1st	Valve - types, features

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Subject: WS & WVENo. of Days/per week class allotted 05Semester From Date : 15/09/2022 To Date : 22/12/2022 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
	2nd	uses purpose - sluice valves, check valves
	3rd	Air valves, scum valves, Ferric hydrant, water meters
	4th	w/s plumbing building method of connection from water mains to building supply
	5th	General layout of plumbing arrangement for water supply in single and multi-storied building I.S. code
9	1st	Introduction, Aims and objectives of Sanitary Engineering
	2nd	Definition of terms related to sanitary Engineering
	3rd	system of collection of wastes
	4th	Conservancy carriage system features
	5th	Water carriage system features
10	1st	Comparison, suitability
	2nd	Quantity and Quality of sewage Quantity of Sanitary sewage - domestic & industrial sewage
	3rd	variation in sewage flow

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Subject: WS2: WVENo. of Days/per week class allotted 05Semester From Date : 15/09/2022 To Date : 27/12/2022 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
13	1 st	Storm regulator, inverted siphon- features, location function
	2 nd	Disposal on land- sewage farming
	3 rd	sewage application and closing sewage sickness- causes and remedies
	4 th	Disposal by dilution- standards for disposal in different types of water bodies
	5 th	self purification of stream
14	1 st	sewage treatment principles of treatment
	2 nd	flow diagram of conventional treatment
	3 rd	primary treatment- necessity
	4 th	function, secondary treatment- necessity
	5 th	principles, essential features of primary treatment
15	1 st	function and principles of secondary treatment
	2 nd	essential features

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Subject: WS&WWE No. of Days/per week class allotted 05

Semester From Date : 15/09/2022 To Date : 22/12/2022 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
	3 rd	Sanitary plumbing for building Requirements of building drainage, layout of lavatory blocks in residential building, layout of building drainage
	4 th	Plumbing arrangement of single storied & multi-storied building as per I.S. code practice
	5 th	Sanitary fixtures - features, function and maintenance and fixing of the fixtures - water closets, flushing cistern, urinals, inspection, chambers, traps, antisiphonage pipe

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