

LESSON PLAN (WINTER-2022)

Discipline- Civil Engineering	Semester-5 th (3 rd Year)
Semester from Date- 15.09.22 to 22.12.2022	No of weeks-15
No of classes allotted(hours/week)-05	Total Period-75
Subject- WATER SUPPLY AND WASTE WATER ENGINEERING	Subject Code-Th. 04
Name of the Teaching Faculty-SUDHASHREE MUNDA	

WEEK	DATE/ CLASS DAY	PERIOD AVAILABLE	TOPICS TO BE COVERED
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SECTION A-WATER SUPPLY

1 st	16.09.22	01	Briefing about the syllabus, Introduction to the subject ,it's objective and practical application of it. Mark distribution, reference book etc. <u>Chapter-1</u> <u>Introduction to Water Supply, Quantity and Quality of water</u> ~Necessity of treated water supply,
	17.09.22	01	~per capita demand, variation in demand and factors affecting demand.
2 nd	20.09.22	01	~Methods of forecasting population, Numerical problems using different methods ,
	21.09.22	02	~Impurities in water – organic and inorganic, Harmful effects of impurities .
	23.09.22	01	~Analysis of water –physical, chemical and bacteriological ,
	24.09.22	01	~Water quality standards for different uses .
3 rd	27.09.22	01	Revision of Chapter-01
	28.09.22	02	<u>Chapter-2</u> <u>Sources and Conveyance of water</u> ~Surface sources – Lake, stream, river and impounded reservoir
	30.09.22	01	~Underground sources – aquifer type & occurrence – Infiltration gallery, infiltration well springs, well
	01.10.22	01	~ Yield from well- method s of determination, Numerical problems using yield formulae (deduction excluded) . Intakes – types, description of river intake, reservoir intake, canal intake
4 th	07.10.22	02	~ Pumps for conveyance & distribution – types, selection, installation. Pipe materials – necessity, suitability, merits & demerits of each type .
	08.10.22	01	~ Pipe joints – necessity, types of joints, suitability, methods of jointing . Laying of pipes – method
5 th	11.10.22	01	Revision of Chapter-2
	12.10.22	02	<u>Chapter-3</u> <u>Treatment of water</u> ~Flow diagram of conventional water treatment system
	14.10.22	01	~ Treatment process / units : Aeration ; Necessity
	15.10.22	01	~ Plain Sedimentation : Necessity, working principles, Sedimentation tanks – types, essential features, operation & maintenance
6 th	18.10.22	01	~ Sedimentation with coagulation: Necessity, principles of coagulation, types of coagulants, Flash Mixer, Flocculator, Clarifier (Definition and concept only)
	19.10.22	02	~ Filtration : Necessity, principles, types of filters Slow Sand Filter, Rapid Sand Filter and Pressure Filter – essential features
	21.10.22	01	~ Disinfection : Necessity, methods of disinfection
	22.10.22	01	~ Chlorination – free and combined chlorine demand, available chlorine, residual chlorine, pre-chlorination, break point chlorination, super-chlorination
h	25.10.22	01	~Softening of water – Necessity, Methods of softening – Lime soda process and Ion exchange method (Concept Only)

	26.10.22	02	Revision of Chapter-3
Monthly Class test for October -2022(27.10.2022)			
	28.10.22	01	<u>Chapter-4</u> <u>Distribution system And Appurtenance in distribution system:</u> ~General requirements, types of distribution system-gravity, direct and combined
8 th	29.10.22	01	~ Methods of supply - Intermittent and continuous
	01.11.22	01	~ Distribution system layout - types, comparison, suitability
	02.11.22	02	~Valves-types, features, uses, purpose-sluice valves, check valves, air valves, scour valves, Fire hydrants, Water meters
	04.11.22	01	Revision of Chapter-4
SECTION B: WASTE WATER ENGINEERING			
	05.11.22	01	<u>Chapter-6</u> <u>Introduction</u> ~ Aims and objectives of sanitary engineering
9 th	09.11.22	02	~ Definition of terms related to sanitary engineering
	11.11.22	01	~ Systems of collection of wastes- Conservancy and Water Carriage System - features, comparison, suitability
	12.11.22	01	Revision of Chapter-6
10 th	15.11.22	01	<u>Chapter-7</u> <u>Quantity and Quality of sewage</u> ~Quantity of sanitary sewage - domestic & industrial sewage, variation in sewage flow, numerical problem on computation quantity of sanitary sewage.
	16.11.22	02	~Computation of size of sewer, application of Chazy's formula, Limiting velocities of flow : self-cleaning and scouring
Internal Assessment-3 rd week of November 2022 (16.11.22 & 17.11.22)			
	18.11.22	01	~General importance, strength of sewage, Characteristics of sewage-physical, chemical & biological
	19.11.22	01	~Concept of sewage-sampling, tests for - solids, pH, dissolved oxygen, BOD, COD
11 th	22.11.22	01	Revision of Chapter 7
	23.11.22	02	<u>Chapter-8</u> <u>Sewerage system</u> ~Types of system-separate, combined, partially separate , features, comparison between the types, suitability
	25.11.22	01	~Shapes of sewer - rectangular, circular, avoid-features, suitability , Laying of sewer-setting out sewer alignment
	26.11.22	01	Revision of Chapter-8
Monthly Class test for November-2022(28.11.2022)			
SECTION A-WATER SUPPLY			
12 th	29.11.22	01	<u>Chapter-5</u> <u>W/s plumbing in building :</u> ~ Method of connection from water mains to building supply
	30.11.22	02	~ General layout of plumbing arrangement for water supply in single storied and multi-storied building as per I.S. code., Revision of Chapter-5.

SECTION B: WASTE WATER ENGINEERING

	02.12.22	01	<u>Chapter-9</u> <u>Sewer appurtenances and Sewage Disposal</u> ~ Manholes and Lamp holes - types, features, location, function
	03.12.22	01	~ Inlets, Grease & oil trap - features, location, function, Storm regulator, inverted siphon - features, location, function
13 th	06.12.22	01	~ Disposal on land - sewage farming, sewage application and dosing, sewage sickness-causes and remedies
	07.12.22	02	~ Disposal by dilution - standards for disposal in different types of water bodies, self purification of stream, Revision of Chapter-9.
	09.12.22	01	<u>Chapter-10</u> <u>Sewage treatment:</u> ~ Principles of treatment, flow diagram of conventional treatment
	10.12.22	01	~ Primary treatment - necessity, principles, essential features, functions
14 th	13.12.22	01	~ Secondary treatment - necessity, principles, essential features, functions, Revision of Chapter-10.
	14.12.22	02	<u>Chapter-11</u> <u>Sanitary plumbing for building:</u> ~ Requirements of building drainage, layout of lavatory blocks in residential buildings, layout of building drainage
	16.12.22	01	~ Plumbing arrangement of single storied & multi storied building as per I.S. code practice
	17.12.22	01	~ Sanitary fixtures - features, function, and maintenance and fixing of the fixtures - water closets, flushing cisterns, urinals, inspection chambers, traps, anti-syphonage pipe
15 th	20.12.22	01	Revision of Chapter-11
	21.12.22	02	Revision
Total No. of Classes		66	

Sudha
14/9/22
Faculty
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14/09/2022
HOD
Department of Civil Engg

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Principal
OSME, Keonjhar

LESSON PLAN (WINTER 2022)

Line- Civil Engineering

Semester 5th (3rd Year)

From Date- 15.09.22 to 22.12.2022

No of weeks-15

Classes allotted(hours/week)-06

Total Period-90

Subject- CIVIL ENGINEERING LABORATORY-II

Subject Code-Pr.01

Name of the Teaching Faculty-SUDHASHREE MUNDA

WEEK	DATE/ CLASS DAY	PERIOD AVAILABLE
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TOPICS TO BE COVERED

CHAPTER-1: TESTS ON SOIL

1 st	17.09.2022	3	Briefing about the syllabus, Introduction to the Practical, it's objective and practical application of it. Mark distribution, reference book etc.
2 nd	21.09.2022	3	Determination of Specific gravity of Soil by Pycnometer /Density bottle.
	24.09.2022	3	Determination of Field Density of Soil by Core Cutter Method
3 rd	28.09.2022	3	Determination of Particle Size gradation of sand/Gravel by sieve analysis
	01.10.2022	3	Wet mechanical analysis using pipette method for clay and silt
4 th	12.10.2022	3	Determination of Liquid Limit by soil by Casagrande's apparatus
	15.10.2022	3	Determination of Plastic limit of soil
5 th	19.10.2022	3	Determination of Shrinkage limit of soil.
	22.10.2022	3	Determination of MDD & OMC of soil by using modified Proctor Test.
6 th	26.10.2022	3	Determination of CBR value using Laboratory CBR Testing device
	29.10.2022	3	Determination of c and ϕ of soil by triaxial testing device
			Determination of coefficient of permeability of soil by constant head method.

CHAPTER-2: HYDRAULICS LABORATORY

7 th	02.11.2022	3	Verification of Bernoulli's Theorem
	05.11.2022	3	Determination of coefficient of Discharge of a rectangular notch fitted in open channel
8 th	09.11.2022	3	Determination of coefficient of Discharge of a Venturimeter, Orificemeter fitted in a pipe
	12.11.2022	3	Determination of head Loss due to friction and coefficient of friction for flow through pipe.

CHAPTER-3:TRANSPORTATION LABORATORY

9 th	16.11.2022	3	Internal Assessment-3 rd week of November 2022 (16.11.22 & 17.11.22)
	19.11.2022	3	Penetration Test of Bitumen.
10 th	23.11.2022	3	Ductility Test of Bitumen.
	26.11.2022	3	Viscosity Test of Bitumen
11 th	30.11.2022	3	Bitumen content by centrifuge extractor.


CHAPTER-4:PUBLIC HEALTH ENGINEERING LABORATORY

	03.12.2022	3	Determination of Turbidity of water Sample using Turbidimeter/Nephelometer/Jackson's Candle Turbidimeter.
12 th	07.12.2022	3	Determination of pH of Water sample using (a) pH - meter (b) colour Comparator.
	10.12.2022	3	Determination of Chloride content of a Water sample using method of titration
13 th	14.12.2022	3	Determination of Coagulant (Alum) dose requirement for a turbid water sample by Jar Test.
	17.12.2022	3	Determination of dissolved oxygen in a water sample
14 th	21.12.2022	3	Determination of bacteriological quality of water sample by Coliform test.

Record submission and Q & A discussion for VIVA

TOTAL 78


Faculty
Signature


Department of Civil Engg.


Principal
OSME, Keonjhar

LESSON PLAN (WINTER-2022)

Discipline- Civil Engineering

Semester-3rd (2nd Year)

Semester from Date- 15.09.22 to 22.12.2022

No of weeks-15

No of classes allotted(hours/week)-04

Total Period-60

Subject- ESTIMATION & COST EVALUATION - I

Subject Code-Th.04

Name of the Teaching Faculty-SUDHASHREE MUNDA

WEEK	DATE	NO OF CLASSES	TOPICS TO BE COVERED
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CHAPTER-1 : Introduction

1 st	11.10.22	2	Briefing about the Syllabus, Introduction to the subject , It's objective and practical application of it, Mark distribution, Reference books, etc.
	13.10.22	2	1.1 Types of estimates - Plinth area, floor area / carpet area
2 nd	18.10.22	2	1.2 Units and modes of measurements as per IS 1200
	20.10.22	2	1.3 Accuracy of measurement for different item of work
3 rd	25.10.22	2	Revision

monthly class test for october -26.10.22

CHAPTER-2 : Quantity Estimate of Building

	27.10.22	2	2.1 Short wall long wall method and centre line method,
4 th	1.11.22	2	deductions in masonry, plastering, white washing, painting etc.,
	3.11.22	2	-----DO-----
5 th	10.11.22	2	multiplying factor (paint coefficients) for painting of doors and windows (paneled/glazed), grills etc.
6 th	15.11.22	2	2.2 Detailed estimate of single storied flat roof building with shallow foundation and RCC roof slab with leak proof treatment over it including staircase and mummy room.

Internal Assessment -3rd week of November

	17.11.22	2	-----DO-----
7 th	22.11.22	2	Revision

CHAPTER-3 : Analysis of Rates and Valuation

	24.11.22	2	3.1 Analysis of rates for cement concrete, brick masonry in Cement Mortar, laterite stone masonry in Cement Mortar, cement plaster, white washing,
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Monthly Class Test for November -28.11.22

8 th	29.11.22	2	Artificial Stone flooring, Tile flooring, concrete flooring, R.C.C. with centering and shuttering, reinforcing steel, Painting of doors and windows etc. as per OPWD.
	1.12.22	2	3.2 Calculation of lead, lift, conveyance charges, royalty of materials, etc. as per Orissa P.W.D. system (Concept of C.P.W.D./Railways provisions
9 th	6.12.22	2	3.3 Abstract of cost of estimate.
	8.12.22	2	3.4 Valuation- Value and cost, scrap value, salvage value, assessed value, sinking fund, depreciation and obsolesce, methods of valuation.
10 th	13.12.22	2	Revision

CHAPTER-4 : Administrative Set-Up of Engineering Organisations:

	15.12.22	2	4.1 Administrative set-up and hierarchy of Engineering department in State Govt./Central Govt./PSUs/Private Sectors etc.
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11 th	20.12.22	2	Duties and responsibilities of Engineers at different positions /levels.
	22.12.22	2	Revision
	TOTAL	42	

LESSON PLAN / WINTER-2022

DEPARTMENT OF CIVIL ENGINEERING .OSME KEONJHAR

Discipline: Civil Engineering		Semester-3 rd	Name of the faculty: Sudhashree Munda
Subject -Estimating practice I		No of classes /per week class allotted: 3	Semester from date -15.09 2022 to 22.12.2022 No.of weeks: 15
WEEK	DATE	CLASS DAY	TOPIC TO BE COVERED
1 st	14.10.2022	3	<u>Chapter1-Estimate for plinth area</u> Preparation of plinth area estimate & detailed estimate for the Single storeyed two roomed building with specification as per Orissa P.W.D. schedule of rates and analysis of rates
2 nd	21.10.2022	3	-----DO-----
3 rd	28.10.2022	3	A two storeyed pucca Building with specification as per Orissa P.W.D. schedule of rates and analysis of rates
4 th	04.11.2022	3	Q/A Discussion
5 th	11.11.2022	3	<u>Chapter-2:Analysis Of Rates</u> Analysis of rates in detail for the above items of works basing on Orissa Govt. analysis of rate with help of MS Excel software.
6 th	18.11.2022	3	Q/A Discussion
7 th	25.11.2022	3	Chapter-3:Dry Material Calculation Calculation of dry materials for different items of building basing on Orissa Govt. analysis of rate with help of MS Excel software.
8 th	02.12.2022	3	Chapter-4: Cost Estimate And Bill Of Quantities Preparation of abstract of cost and bill of quantities of the estimates as per item no. 1.0 above with help of MS Excel software.
9 th	09.12.2022	3	-----DO-----
10 th	16.12.2022	3	RECORD SUBMISSION , Q/A Discussion for Viva
	TOTAL	30	