

P.C.I.E.T., CHHENDIPADA, DIST- ANGUL

THEORY LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 3RD, SECTION :- (C1 & C2)

**NAME OF THE FACULTY : (1) ER. SUNIL KUMAR SAHU,
(2) ER. PRITAM SAGAR SAHOO, LECT. IN CIVIL ENGG.**

SEMESTER FROM DT. 01.10.2021 TO 31.01.2022

THEORY SUBJECT : STRUCTURAL MECHANICS (TH-1)

CLASS ALLOTTED / WEEK: 05 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT-1 Review Of Basic Concepts	4	OCTOBER	
	Basic Principle of Mechanics, Force,	1		01.10.2021 & 04.10.2021
	Moment	1		05.10.2021
	Support conditions, Conditions of equilibrium	1		05.10.2021 & 07.10.2021
	C.G & MI, Free body diagram, CG and MI of different sections	1		08.10.2021
2	UNIT-2.1 Simple And Complex Stress, Strain	15		
	Introduction to stresses and strains	1		09.10.2021
	Mechanical properties of materials – Rigidity, Elasticity, Plasticity, Compressibility, Hardness, Toughness, Stiffness, Brittleness, Ductility, Malleability, Creep, Fatigue, Tenacity, Durability	1		18.10.2021 & 19.10.2021
	Types of stresses - Tensile, Compressive and Shear stresses	1		19.10.2021
	Types of strains - Tensile, Compressive and Shear strains	1		19.10.2021 & 20.10.2021
	Complimentary shear stress - Diagonal tensile / compressive Stresses due to shear	1		21.10.2021
	Elongation and Contraction, Longitudinal and Lateral strains	1		22.10.2021
	Poisson's Ratio, Volumetric strain, computation of stress, strain, Poisson's ratio, change in dimensions and volume	1		23.10.2021
	Hooke's law - Elastic Constants, Derivation of relationship between the elastic constants	1		25.10.2021

S ^t No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	UNIT-2.2 Application of simple stress and strain in engineering field:			
	Behaviour of ductile and brittle materials under direct loads, Stress Strain curve of a ductile material, Limit of proportionality, Elastic limit, Yield stress,	1		26.10.2021
	Ultimate stress, Breaking stress, Percentage elongation, Percentage reduction in area, Significance of percentage elongation and reduction in area of cross section	1	NOVEMBER 2021	26.10.2021 & 01.11.2021
	Deformation of prismatic bars due to uniaxial load, Deformation of prismatic bars due to its self weight			02.11.2021
	UNIT-2.3 Complex Stress and Strain			
	Principal stresses and strains; Occurrence of normal and tangential stresses	1		03.11.2021
	Concept of Principal stress and Principal Planes, major and minor principal stresses	1		05.11.2021
	major and minor principal stresses major and minor principal stresses and their orientations	1		06.11.2021
	Mohr's Circle and its application to solve problems of complex stresses	2		08.11.2021
	UNIT-3.1 Stresses In Beams and Shaft	10		
3	Stresses in beams due to bending: Bending stress in beams –	1		09.11.2021
	Theory of simple bending – Assumptions	1		10.11.2021
	Moment of resistance – Equation for Flexure– Flexural stress distribution	1		11.11.2021
	Curvature of beam – Position of N.A. and Centroidal Axis – Flexural rigidity – Significance of Section modulus	1		12.11.2021
	UNIT-3.2 Shear Stresses in Beams	1		
	Shear stress distribution in beams of rectangular section, circular and standard sections symmetrical about vertical axis	1		13.11.2021

Sl No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	UNIT-3.3 Stresses in Shafts due to Torsion			
	Concept of torsion, basic assumptions of pure torsion	1		15.11.2021
	Torsion of solid and hollow circular sections, polar moment of inertia	1		17.11.2021
	Torsional shearing stresses, angle of twist, torsional rigidity, equation of torsion	1		17.11.2021 & 18.11.2021
	UNIT-3.4 Combined Bending and Direct Stresses			
	Combined bending and direct stresses: Combination of stresses, Combined direct and bending stresses, Maximum and Minimum stresses in Sections	1		20.11.2021
	Conditions for no tension, Limit of eccentricity, Middle third/fourth rule, Core or Kern for square, rectangular and circular sections, chimneys, dams and retaining walls	1		22.11.2021
4	UNIT-4 Columns and Struts	4		
	Columns and Struts, Definition, Short and Long columns	1		24.11.2021
	End conditions, Equivalent length / Effective length, Slenderness ratio	1		25.11.2021
	Axially loaded short and long column, Euler's theory of long columns	1		26.11.2021
	Critical load for Columns with different end conditions (numericals)	1		27.11.2021
5	UNIT-5.1, Shear Force and Bending Moment	12		
	Types of Loads: Concentrated (or) Point load, Uniformly Distributed load (UDL),	1		29.11.2021
	Types of Supports: Simple support, Roller support, Hinged support, Fixed support,	1	DECEMBER 2021	01.12.2021
	Types of Reactions: Vertical reaction, Horizontal reaction, Moment reaction	1		01.12.2021 & 02.12.2021

Sr. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Types of Beams based on support conditions: Calculation of support reactions using equations of static equilibrium.	1		03.12.2021
	UNIT-5.2 Shear Force and Bending Moment in Beams			
	Shear Force and Bending Moment	1		04.12.2021
	Signs Convention for S.F. and B.M, S.F and B.M of general cases of determinate beams with concentrated loads and udl only,	1		06.12.2021
	S.F and B.M diagrams for Cantilevers	1		08.12.2021
	Simply supported beams and Over hanging beams	1		09.12.2021
	Position of maximum BM	1		10.12.2021
	Point of contra flexure, Relation between intensity of load, S.F and B.M.(numericals)	1		11.12.2021
	Numericals on shear force and bending moment of simply supported beam	1		15.12.2021 & 15.12.2021
	Numericals on shear force and bending moment of simply supported beam	1		15.12.2021 & 16.12.2021
	UNIT-6.1 Slope and Deflection	10		
	Shape and nature of elastic curve (deflection curve);	1		17.12.2021
	Relationship between slope, deflection and curvature (No derivation)	1		18.12.2021
	Importance of slope and deflection.	1		20.12.2021
6	Slope and deflection of cantilever beam under point load	1		22.12.2021
	Slope and deflection of simply supported beams under concentrated load	1		23.12.2021
	Slope and deflection of cantilever beam under u.d.l	1		24.12.2021

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	Slope and deflection of simply supported beams under u.d.l	1		26.12.2021
	Slope and deflection of cantilever by Double Integration method,	1		27.12.2021
	Slope and deflection of cantilever by Macaulay's method	1		27.12.2021 & 29.12.2021
	Slope and deflection of simply supported beams under different load condition by Macaulay's method	1		30.12.2021
	UNIT-7 Indeterminate Beams	10		
	Indeterminacy in beams, Principle of consistent deformation/compatibility,	1		31.12.2021
	Analysis of propped cantilever, fixed and two span continuous beams by principle of superposition Indeterminacy in beams, Principle of consistent deformation/compatibility,	1	JANUARY 2022	03.01.2022
	SF and BM diagrams (point load and udl covering full span)	1		05.01.2022
	Numericals on shear force and bending moment diagram propped cantilever beam	1		06.01.2022
7	Numericals on shear force and bending moment diagram fixed beam	1		07.01.2022
	Numericals on shear force and bending moment diagram fixed beam	1		08.01.2022
	Numericals on shear force and bending moment diagram fixed beam	1		10.01.2022
	Numericals on shear force and bending moment diagram propped cantilever beam	1		10.01.2022 & 12.01.2022
	Numericals on shear force and bending moment diagram of continuous beam	1		13.01.2022
	Numericals on shear force and bending moment diagram of continuous beam	1		13.01.2022 & 15.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Trusses	10		
	Types of trusses, statically determinate and indeterminate trusses,	1		17.01.2022
	degree of indeterminacy, stable and unstable trusses, advantages of trusses.	1		17.01.2022 & 19.01.2022
	Analysis of trusses: Analytical method (Method of joints, method of Section)	1		20.01.2022
	Numericals on method of joints of truss	1		21.01.2022
8	Numericals on method of joints of truss	1		22.01.2022
	Numericals on method of joints of truss.	1		24.01.2022
	Numericals on method of joints of truss	1		27.01.2022
	Numericals on method of section of truss	1		28.01.2022
	Numericals on method of section of truss	1		29.01.2022
	Numericals on method of section of truss	1		31.01.2022

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THEORY LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 3RD, SECTION : (C1&C2)

NAME OF THE FACULTY : (1) ER. SIBANI SAHU
(LECT. IN CIVIL ENGG.)

SEMESTER FROM DT. 01.10.2021 TO 31.01.2022

THEORY SUBJECT : GEOTECHNICAL ENGINEERING (TH-2)

CLASS ALLOTTED / WEEK: 05 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT-1 : INTRODUCTION	2	OCTOBER - 2021	
	Soil and Soil Engineering ,Scope of Soil Mechanics.	1		01.10.2021 & 04.10.2021
	Origin and formation of soil	1		05.10.2021
2	UNIT-2 : PRELIMINARY DEFINATIONS AND RELATIONSHIP	6		
	Soil as a three Phase system	1		07.10.2021
	Water Content, Density, Specific gravity, Voids ratio, Porosity, Percentage of air voids, air content, degree of saturation, density Index	1		07.10.2021 & 08.10.2021
	Degree of saturation, density Index, Bulk/Saturated/dry/submerged density, Interrelationship of various soil parameters	1		09.10.2021 & 18.10.2021
	Interrelationship of various soil parameters	1		18.10.2021
	Problems discussion on soil parameters and their relationships	1		19.10.2021
	Problems discussion on soil parameters and their relationships	1		20.10.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	UNIT-3 INDEX PROPERTIES OF SOIL	4		
	Water Content , Specific Gravity	1		21.10.2021
	Particle size distribution: Sieve analysis, wet mechanical analysis,	1		22.10.2021
	Particle size distribution curve and its uses	1		23.10.2021
	Consistency of Soils, Atterberg's Limits, Plasticity Index, Consistency Index, Liquidity Index	1		25.10.2021
4	UNIT-4: CLASSIFICATION OF SOIL	6		
	Particle size classification system	1		26.10.2021
	Highway research board classification system	1	NOVEMBER - 2021	01.11.2021
	Unified soil classification system	1		02.11.2021
	Indian standard soil classification system	1		03.11.2021
	Plasticity chart	1		05.11.2021
	Revision	1		06.11.2021
5	UNIT-5 : PERMEABILITY AND SEEPAGE	7		
	Concept of Permeability, Darcy's Law, Co-efficient of Permeability	1		08.11.2021 & 09.11.2021
	Factors affecting Permeability	1		10.11.2021
	Constant head permeability and falling head permeability Test	1		11.11.2021
	Seepage pressure, effective stress, phenomenon of quick sand	1		12.11.2021
	effective stress, phenomenon of quick sand	1		15.11.2021 & 16.11.2021
	Problem based on effective stress	1		18.11.2021
	Problem based on effective stress	1		22.11.2021

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6	UNIT-6 : COMPACTION AND CONSOLIDATION	8		
	Compaction: Compaction, Light and heavy compaction Test	1		23.11.2021
	Optimum Moisture content, Maximum dry density	1		25.11.2021
	Zero air void line, Factors affecting Compaction	1		26.11.2021 & 29.11.2021
	Field compaction methods and their suitability	1		29.11.2021 & 30.11.2021
	Consolidation, distinction between compaction and consolidation.	1	DECEMBER - 2021	02.12.2021
	Terzaghi's model analogy of compression/ springs showing the process of consolidation	1		03.12.2021
	Field implications	1		06.12.2021
	Revision and discussion	1		07.12.2021
7	UNIT-7 : SHEAR STRENGTH	6		
	Concept of shear strength, Mohr- Coulomb failure theory	1		09.12.2021
	Cohesion, Angle of internal friction, strength envelope for different type of soil,	1		10.12.2021 & 13.12.2021
	Measurement of shear strength:- Direct shear test, triaxial shear test,	1		14.12.2021
	unconfined compression test and vane-shear test	1		16.12.2021
	Problems based shear strength	1		17.12.2021
	Revision and discussion	1		20.12.2021

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8	UNIT-8 :EARTH PRESSURE AND RETAINING STRUCTURE	7		
	Active earth pressure, Passive earth pressure.	1		21.12.2021
	Earth pressure at rest.	1		23.12.2021
	Use of Rankine's formula for the following cases (cohesion-less soil only) (i) Backfill with no surcharge.	1		24.12.2021 & 27.12.2021
	Use of Rankine's formula for the following cases (cohesion-less soil only) ii) backfill with uniform surcharge	1		27.12.2021 & 28.12.2021
	Problem based on earth pressure	1		30.12.2021
	Problem based on earth pressure	1		31.12.2021
	Revision and class test	1	JANUARY - 2022	03.01.2022
9	UNIT-9 : Foundation Engineering	13		
	Introduction to foundation engineering	1		04.01.2022
	Functions of foundations.	1		06.01.2022
	Different types of foundations:shallow and deep	1		07.01.2022
	Different type of shallow and deep foundations with sketches.	1		10.01.2022 & 11.01.2022
	Types of failure (General shear, Local shear & punching shear),	1		11.01.2022 & 13.01.2022
	Bearing capacity of soil	1		17.01.2022
	Bearing capacity of soils using Terzaghi's formulae	1		18.01.2022

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	Problems based on bearing strength using terzaghi formula	1		20.01.2022 & 21.01.2022
	IS Code formulae for strip, Circular and square footings	1		24.01.2022
	Problems based on bearing strength based on IS CODE formula	1		25.01.2022
	Effect water table on bearing capacity of soil	1		27.01.2022
	Revision	1		28.01.2022
	Class test	1		31.01.2022

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BRANCH : CIVIL ENGG. SEMESTER : 3RD, SECTION : (C1 & C2)

NAME OF THE FACULTY : (1) ER. SUJATA DALEI,
 (2) ER. BABITA SAHU (LECT. IN CIVIL ENGG.)

SEMESTER FROM DT. 01.10.2021 TO 31.01.2022

THEORY SUBJECT : BUILDING MATERIALS & CONSTRUCTION TECHNOLOGY (TH-3)

CLASS ALLOTTED / WEEK: 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	(PART -A)UNIT-1 : STONE	5	OCTOBER 2021	
	Introduction, classification of rock	1		01.10.2021 & 04.10.2021
	uses of stone, natural bed of stone	1		06.10.2021
	Qualities of good building stone	1		07.10.2021
	Dressing of stone	1		08.10.2021 & 09.10.2021
	Characteristics of different types of stone and their uses	1		14.10.2021 & 19.10.2021
2	UNIT-2 : Bricks	6		
	Brick earth – its composition	1		20.10.2021 & 21.10.2021
	Brick making – Preparation of brick earth, Moulding, Drying,	1		21.10.2021 & 22.10.2021
	Burning in kilns (continuous Process)	1		23.10.2021 & 26.10.2021
	Classification of bricks	1		26.10.2021
	Size of traditional and modular bricks	1	NOVEMBER 2021	01.11.2021
	Qualities of good building bricks	1		02.11.2021
3	UNIT-3 : Cement, Mortar and Concrete	7		03.11.2021
	Cement: Types of cements, Properties of cements, Manufacturing of cement	1		05.11.2021 & 06.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Importance and application of blended cement with fly ash and blast furnace slag	1		08.11.2021 & 09.11.2021
	Mortar: Definition and types of mortar	1		10.11.2021
	Sources and classification of sand, Bulking of sand	1		11.11.2021
	Use of gravel, morrum and fly ash as different building material	1		12.11.2021
	Concrete: Definition and composition- Water cement ratio- Workability, mechanical properties of aggregate	1		13.11.2021
	Grading of aggregates, mixing, placing, compacting and curing of concrete	1		15.11.2021
	UNIT-4 :Other Construction Materials	7		16.11.2021 & 17.11.2021
	Timber: Classification and Structure of timber	1		20.11.2021
	Seasoning of timber – Importance	1		22.11.2021
	Characteristics of good timber	1		23.11.2021
4	Clay products and refractory materials – Definition and Classification	1		23.11.2021 & 24.11.2021
	Properties and uses of refractory materials- tiles, terracotta, porcelain glazing	1		26.11.2021
	Iron and Steel: Uses of cast iron, wrought iron, mild steel and tor steel	1		27.11.2021
	Revision and class test	1		27.11.2021 & 29.11.2021
	UNIT-5 :Surface Protective Materials	5		
5	Composition of Paints, enamels, varnishes	1		30.11.2021
	Types and uses of surface protective materials like Paints, Enamels	1	DECEMBER 2021	01.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Types of Varnishes, Distempers, Emulsion, French polish and Wax Polish.	1		03.12.2021 & 04.12.2021
	Uses of Varnishes, Distempers, Emulsion, French polish and Wax Polish.	1		06.12.2021
	Class test and revision	1		07.12.2021
6	(PART-B) UNIT-1 :Introduction	2		
	Buildings and classification of buildings based on occupancy	1		08.12.2021 & 10.12.2021
	Different components of a building. Site investigation – objectives, site reconnaissance and explorations	1		11.12.2021 & 13.12.2021
7	UNIT-2 :Foundations	4		
	Concept of foundation and its purpose, Types of foundations – shallow and deep	1		14.12.2021
	Shallow foundation-constructural details of : Spread foundations for walls, thumb rules for depth and width of foundation and thickness of concrete block	1		15.12.2021
	Deep foundations: Pile foundations-their suitability	1		17.12.2021
	Classification of piles based on materials, function and method of installation	1		18.12.2021

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8	UNIT-3: Walls & Masonry Works :	6		
	Purpose of walls Classification of walls – load bearing, non-load bearing walls, retaining walls	1		20.12.2021 & 21.12.2021
	Classification of walls as per materials of construction: brick, stone, reinforced brick, reinforced concrete, precast, hollow and solid concrete block and composite masonry walls	1		21.12.2021 & 22.12.2021
	Partition Walls : Suitability and uses of brick and wooden partition walls, Brick masonry : Definition of different terms	1		24.12.2021
	Bond – meaning and necessity: English bond for 1 and 1-1/2 Brick thick walls. T, X and right angled corner junctions. Thickness for 1 and 1-1/2 brick square pillars in English bond	1		24.12.2021 & 25.12.2021
	Stone Masonry :Glossary of terms –String course, corbel, cornice, block-in-course, grouting	1		27.12.2021
	mouldings, templates, throating, through stones, parapet, coping, pilaster and buttress	1		28.12.2021
	UNIT-4 :Doors, Windows And Lintels	4		
	Glossary of terms used in doors and windows	1		29.12.2021
	Doors – different types of doors	1		31.12.2021
	Windows – different types of windows	1	JANUARY 2022	03.01.2022 & 04.01.2022
	Purpose of use of arches and lintels	1		04.01.2022 & 05.01.2022

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10	UNIT-5 :Floors, Roofs and Stairs	5		
	Floors: Glossary of terms ,Types of floor finishes – cast-in-situ, concrete flooring(monolithic, bonded), terrazzo tile flooring, cast in situ Terrazzo flooring, timber flooring	1		07.01.2022 & 08.01.2022
	Roofs: Glossary of terms, Types of roofs, concept and function of flat, pitched, hipped and Sloped roof	1		08.01.2022 & 10.01.2022
	Stairs: Glossary of terms; Stair case, winder, landing, stringer, newel, baluster, rise, tread, width of stair case, hand rail, nosing, head room, mumty room.	1		11.01.2022
	Various types of stair case – straight flight, dog legged, open well, quarter turn, half turn (newel and geometrical stairs), bifurcated stair, spiral stair, cantilever stair, tread riser stair.	1		12.01.2022
	Revision	1		12.01.2022 & 15.01.2022
11	UNIT-6 :Protective, Decorative Finishes, Damp and Termite Proofing	5		
	Plastering – purpose – Types of plastering, Types of plaster finishes – Grit finish, rough cast, smooth cast, sand faced, pebble dash, acoustic plastering and plain plaster	1		17.01.2022
	Proportion of mortars used for different plasters, preparation of mortars, techniques of plastering and curing	1		18.01.2022 & 19.01.2022
	Pointing – purpose –Types of pointing Painting – objectives – method of painting new and old wall surfaces, wood surface and metal surfaces – powder coating and spray painting on metal surfaces.	1		21.01.2022 & 22.01.2022

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	White washing – Colour washing – Distempering – internal and external walls	1		22.01.2022
	Damp and Termite proofing – Materials and Methods.	1		24.01.2022
	UNIT-7 :Green Buildings, Energy Management and Energy Audit Of Buildings & Project	4		
	Concept of green building	1		24.01.2022 & 25.01.2022
12	Introduction to Energy Management and Energy Audit of Buildings.	1		28.01.2022
	Aims of energy management of buildings. Types of energy audit	1		29.01.2022
	Response energy audit questionnaire Energy surveying and audit report.	1		31.01.2022

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BRANCH : CIVIL ENGG. SEMESTER : 3RD SECTION : (C1&C2)

NAME OF THE FACULTY : (1) ER. SUNIL KUMAR SAHU,
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SEMESTER FROM DT. 01.10.2021 TO 31.01.2022

THEORY SUBJECT : ESTIMATION & COST EVALUATION-I (TH-4)

CLASS ALLOTTED / WEEK: 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT-1 : INTRODUCTION	2	OCTOBER	
	Types of estimates – Plinth area, floor area / carpet area	1	2021	Dt. 01.10.2021
	Units and modes of measurements as per IS 1200, Accuracy of measurement for different item of work	1		Dt. 04.10.2021 & Dt. 05.10.2021
2	UNIT-2 : QUANTITY OF BUILDING ESTIMATE	30		
	Introduction to Building estimate methods	1		Dt. 07.10.2021
	Different types of Building Estimate methods	1		Dt. 08.10.2021
	Discussion on Long wall & Short wall method	1		Dt. 08.10.2021 & Dt. 09.10.2021
	Calculation of length of long wall centre to centre & length of short wall centre to centre	1		Dt. 18.10.2021 & Dt. 19.10.2021
	Discussion on Centre line method	1		Dt. 20.10.2021
	Deductions in masonry, plastering with examples	1		Dt. 21.10.2021
	Deductions in white washing, painting with examples	1		Dt. 22.10.2021
	Different types of Multiplying factors (paint coefficients) for painting of doors	1		Dt. 22.10.2021 & Dt. 23.10.2021
	Multiplying factors (paint coefficients) for painting of windows	1		Dt. 25.10.2021
	Problems based on calculation of quantities of a wall & its detailed measurement	1		Dt. 26.10.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Estimate the quantities of brickwork required in a given wall dimensions	1	NOVEMBER 2021	Dt. 01.11.2021
	Estimate the quantities of brickwork & plastering required in a given wall dimensions using long wall & short wall method	1		Dt. 02.11.2021
	Discussion on Abstract Estimate Cost	1		Dt. 03.11.2021
	Detailed Estimate the quantities of a Single room Building (i) Earthwork in excavation in foundation (ii) Concrete in Foundation (using long wall & short wall method)	1		Dt. 05.11.2021 & Dt. 06.11.2021
	Detailed Estimate the quantities of a Single room Building (iii) Brickwork in Foundation & plinth (iv) Brickwork in Superstructure (using long wall & short wall method)	1		Dt. 08.11.2021 & Dt. 09.11.2021
	Detailed Estimate of a Two roomed Building of quantities (i) Earthwork in excavation in foundation (ii) Concrete in Foundation (using long wall & short wall method)	1		Dt. 09.11.2021 & Dt. 10.11.2021
	Detailed Estimate of a Two roomed Building (iii) Brickwork in Foundation & plinth (iv) Brickwork in Superstructure (v) Damp proof Course with deductions (using long wall & short wall method)	1		Dt. 11.11.2021
	Analysis of a Residential Building	1		Dt. 15.11.2021
	Detailed Estimate of a Residential Building of quantities (i) Earthwork in excavation in foundation (ii) Concrete in Foundation (using long wall & short wall method)	1		Dt. 16.11.2021 & Dt. 17.11.2021
	Detailed Estimate of a Residential Building of quantities (iii) Brickwork in Foundation & plinth (iv) Brickwork in Superstructure (v) Damp proof Course with deductions (using long wall & short wall method)	1		Dt. 17.11.2021 & Dt. 18.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Detailed Estimate the quantities of a Single room Building (i) Earthwork in excavation in foundation (ii) Concrete in Foundation (using Centre line method)	1		Dt. 22.11.2021
	Detailed Estimate the quantities of a Single room Building (iii) Brickwork in Foundation & plinth (iv) Brickwork in Superstructure (using Centre line method)	1		Dt. 23.11.2021
	Detailed Estimate of a Two roomed Building of quantities (i) Earthwork in excavation in foundation (ii) Concrete in Foundation (using Centre method)	1		Dt. 24.11.2021 & Dt. 25.11.2021
	Detailed Estimate the quantities of a Two roomed Building (iii) Brickwork in Foundation & plinth (iv) Brickwork in Superstructure (using Centre line method)	1		Dt. 25.11.2021 & Dt. 29.11.2021
	Detailed Estimate of a Residential Building of quantities (i) Earthwork in excavation in foundation (ii) Concrete in Foundation (using Centre line method)	1		Dt. 30.11.2021
	Detailed Estimate of a Residential Building of quantities (iii) Brickwork in Foundation & plinth (iv) Brickwork in Superstructure (v) Damp proof Course with deductions (using centre line method)	1	DECEMBER 2021	Dt. 01.12.2021 & Dt. 02.12.2021
	Detailed estimate of single storied flat roof building with shallow foundation	1		Dt. 06.12.2021
	Detailed estimate of single storied flat roof building with shallow foundation	1		Dt. 07.12.2021
	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.	1		Dt. 07.12.2021 & Dt. 08.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	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.	1		Dt. 08.12.2021 & Dt. 09.12.2021
	Revision	1		Dt. 13.12.2021
	UNIT-3: ANALYSIS OF RATES AND EVALUATION	22		
	Introduction to analysis of rates and valuation	1		Dt. 14.12.2021
	Analysis of rates for cement concrete, brick masonry in Cement Mortar	1		Dt. 15.12.2021
	Analysis of rates for laterite stone masonry in Cement Mortar, cement plaster	1		Dt. 16.12.2021
	Analysis of rates for white washing, Artificial Stone flooring	1		Dt. 16.12.2021 & Dt. 20.12.2021
	Analysis of rates for Tile flooring, concrete flooring, R.C.C. with centering and shuttering	1		Dt. 21.12.2021
	Analysis of rates for reinforcing steel, Painting of doors and windows etc. as per OPWD.	1		Dt. 22.12.2021
3	Calculation of lead, lift, conveyance charges, royalty of materials, etc. as per Orissa P.W.D. system	1		Dt. 23.12.2021
	Discussion on Abstract of cost of estimate.	1		Dt. 27.12.2021
	Introduction to Valuation, Value and cost	1		Dt. 28.12.2021
	Discussion on scrap value, salvage value	1		Dt. 28.12.2021 & Dt. 29.12.2021
	Discussion on assessed value, sinking fund	1		Dt. 30.12.2021
	Problems discussion regarding Sinking fund	1		Dt. 30.12.2021
	Discussion on depreciation and obsolesce	1	JANUARY 2022	Dt. 03.01.2022
	Problems based on depreciation	1		Dt. 03.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Discussion on various methods of calculation depreciation (i) straight line method	1		Dt. 04.01.2022
	(ii) Constant percentage method (iii) Sinking fund method	1		Dt. 05.01.2022
	(iv) Quantity survey methods with problems.	1		Dt. 06.01.2022
	Problems discussion on different methods of depreciation.	1		Dt. 10.01.2022 & Dt. 11.01.2022
	Discussion on various methods of valuation of	1		Dt. 12.01.2022
	Problems based on valuation	1		Dt. 13.01.2022
	Revision	1		Dt. 13.01.2022 & Dt. 17.01.2022
	Class Test - I	1		Dt. 17.01.2022
	UNIT-4 : ADMINISTRATIVE SET-UP OF ENGINEERING ORGANISATIONS	6		
	Introduction to Administrative Set-Up of Engineering Organisations	1		Dt. 19.01.2022
	Hierarchy of Engineering department in State Govt./Central Govt./PSUs/Private Sectors	1		Dt. 20.01.2022 & Dt. 24.01.2022
4	Duties and responsibilities of Engineers at different positions /levels	1		Dt. 24.01.2022 & Dt. 25.01.2022
	Duties and responsibilities of Engineers at different positions /levels	1		Dt. 25.01.2022
	Revision	1		Dt. 27.01.2022
	Class Test - II	1		Dt. 31.01.2022

Swarnaprava Panda, SAs

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Principal
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P.C.I.E.T., CHHENDIPADA, DIST- ANGUL

THEORY LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 3RD SECTION : (C1&C2)

**NAME OF THE FACULTY : (1) ER. NANDINI PRADHAN,
(2) ER. SUMANTA KUMAR SAHOO (LECT. IN CIVIL ENGG.)**

SEMESTER FROM DT. 01.10.2021 TO 31.01.2022

THEORY SUBJECT : ENVIRONMENTAL STUDIES (TH-5)

CLASS ALLOTTED / WEEK: 05 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT 1: THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES	4	OCTOBER 2021	
	Definition	1		01.10.2021 & 04.10.2021
	Scope of Environment	1		05.10.2021
	Importance of Environment	1		07.10.2021
	Need for public awareness	1		08.10.2021
2	UNIT 2 : NATURAL RESOURCES	10		
	Renewable and non renewable resources	1		09.10.2021
	Natural resources and associated problems	1		06.10.2021
	Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forests and tribal people	1		19.10.2021
	Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems	1		20.10.2021 & 21.10.2021
	Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources.	1		22.10.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity,,	1		23.10.2021
	Energy Resources: Growing energy need, renewable and non renewable energy sources, use of alternate energy sources, case studies.	1		25.10.2021
	Land Resources: Land as a resource, land degradation, man induces landslides, soil erosion, and desertification.	1		26.10.2021
	Role of individual in conservation of natural resources.	1	NOVEMBER 2021	01.11.2021
	Equitable use of resources for sustainable life styles.	1		02.11.2021
	Revision	1		03.11.2021
	UNIT 3 : SYSTEMS	8		
	Concept of an eco system. Structure and function of an eco system	1		05.11.2021
	Producers, consumers, decomposers	1		06.11.2021
	Energy flow in the eco systems	1		08.11.2021
	Ecological succession	1		09.11.2021
	Food chains, food webs and ecological pyramids	1		10.11.2021
	Introduction, types, characteristic features	1		11.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	structure and function of the Forest ecosystem	1		12.11.2021
	structure and function of the Aquatic eco-systems (ponds, streams, lakes, rivers, oceans, estuaries).	1		16.11.2021
	UNIT 4 : BIODIVERSITY AND ITS CONSERVATION	8		
	Introduction-Definition: genetics, species and ecosystem diversity	1		17.11.2021
	Biogeographically classification of India	1		18.11.2021
	Value of biodiversity: consumptive use	1		23.11.2021
	Productive use, social, ethical, aesthetic and optinvalues	1		24.11.2021
	Biodiversity at global, national and local level	1		25.11.2021
	Threats to biodiversity: Habitats loss, poaching of wild life	1		26.11.2021
	Man wildlife conflicts	1		30.11.2021
	Class test	1	DECEMBER 2021	01.12.2021
	UNIT 5 : ENVIRONMENTAL POLLUATION	12		
	Definition Causes, effects and control measures of: Air pollution	1		02.12.2021
	Water pollution	1		03.12.2021
	Soil pollution	1		07.12.2021
	Marine pollution	1		08.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Noise pollution	1		09.12.2021
	Thermal pollution	1		10.12.2021
	Nuclear hazards	1		14.12.2021
	Solid waste Management	1		15.12.2021
	Causes, effects and control measures of urban and industrial wastes.	1		16.12.2021
	Role of an individual in prevention of pollution	1		17.12.2021
	Disaster management: Floods, earth quake	1		21.12.2021
	Cyclone and landslides.	1		21.12.2021 & 22.12.2021
6	UNIT 6 : SOCIAL ISSUES AND THE ENVIRONMENT	10		
	Form unsustainable to sustainable development	1		23.12.2021
	Urban problems related to energy	1		24.12.2021
	Water conservation, rain water harvesting, water shed management	1		26.12.2021
	Resettlement and rehabilitation of people; its problems and concern.	1		29.12.2021
	Environmental ethics: issue and possible solutions.	1		30.12.2021
	Climate change, global warming, acid rain, ozone layer depletion	1		30.12.2021 & 31.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Nuclear accidents and holocaust, case studies	1	JANUARY 2022	04.01.2022
	Air (prevention and control of pollution) Act.	1		05.01.2022
	Water (prevention and control of pollution) Act.	1		06.01.2022
	Public awareness.	1		07.01.2022
	UNIT 7 : HUMAN POPULATION AND THE ENVIRONMENT	8		
	Population growth and variation among nations	1		11.01.2022
	Population explosion- family welfare program	1		12.01.2022
	Environment and human health	1		13.01.2022
	Human rights	1		18.01.2022 & 19.01.2022
7	Value education	1		20.01.2022 & 21.01.2022
	Role of information technology in environment and human health	1		25.01.2022
	Revision	1		27.01.2022
	Class test	1		28.01.2022

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P.C.I.E.T., CHHENDIPADA, DIST- ANGUL
LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 4TH, SECTION :- (C1 & C2)

**NAME OF THE FACULTY : (1) ER. SUJATA DALEI
 (2) ER. BABITA SAHU (LECT. IN CIVIL ENGG.)**

SEMESTER FROM DT. 14.03.2022 TO 30.06.2022

SUBJECT: - STRUCTURAL DESIGN - I (TH-1)

CLASS ALLOTTED / WEEK: 05 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	UNIT-1 : Working stress method (WSM)	5		
	Objectives of design and detailing & different methods of design of concrete structure.	1	MARCH	Dt.-14.03.2022
1	Introduction to reinforced concrete, grades of concrete and steel, advantages of reinforced cement concrete, concept of under reinforced, balanced & over reinforced section	1		Dt-14.03.2022
	Assumptions in working stress method, derivation of formula for balanced design	1		Dt-15.03.2022
	Problem discussion on finding out the design constants and analysis of the section using WSM	1		Dt-16.03.2022
	Problem discussion on design of the section using WSM	1		Dt-17.03.2022
	UNIT-2 : Philosophy of Limit State Method (LSM)	3		
	definition, advantages of LSM over WSM, Limit state of collapse & serviceability, Characteristic strength of material	1		Dt-21.03.2022
2	characteristic load, partial safety factor, design load, loading on structure, I.S specification regarding spacing of reinforcement in slab	1		Dt-22.03.2022
	IS specification regarding cover to reinforcement and minimum reinforcement in slab, beam & column, concept of lapping, anchorage, effective span for beam and slab.	1		Dt-23.03.2022
	UNIT - 3 : Analysis and Design of Single and Double Reinforced Sections (LSM)	15		
3	Assumptions, idealised stress - strain curve for steel and concrete	1		Dt-23.03.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Design stress block parameter, derivation of formula for singly reinforced rectangular beam	1		Dt - 24.03.2022
	Finding out M.R, limiting M.R, percentage of steel and limiting percentage of steel	1		Dt - 25.03.2022
	Problem discussion on finding out the type of the beam	1		Dt - 28.03.2022
	Problem discussion on analysis of singly reinforced section	1		Dt - 29.03.2022
	Problem discussion on analysis of singly reinforced section	1		Dt - 29.03.2022
	CLASS TEST - I	1		Dt - 30.03.2022
	Problem discussion on design of singly reinforced beam	1		Dt - 31.03.2022
	Problem discussion on design of singly reinforced beam	1	MAY	Dt - 04.04.2022
	Necessity of providing doubly reinforced beam, stress & strain diagram, finding out depth of N.A and moment of resistance	1		Dt - 05.04.2022
	Finding out the area of tensile & compression reinforcement, problem discussion on analysis of doubly reinforced beam	1		Dt - 06.04.2022
	Problem discussion on analysis of doubly reinforced beam	1		Dt - 07.04.2022
	Problem discussion on analysis of doubly reinforced beam	1		Dt - 08.04.2022
	Problem discussion on design of doubly reinforced beam	1		Dt - 11.04.2022
	REVISION	1		Dt - 11.04.2022
4	UNIT - 4 : Shear, Bond and Development Length (LSM)	4		
	Nominal shear stress, design shear strength of concrete, maximum shear stress, criteria of minimum shear reinforcement and different forms of shear reinforcement	1		Dt - 12.04.2022
	Problem discussion on design of shear reinforcement in beam	1		Dt - 13.04.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Concept of bond, types of bond, bond stress, development length for tension and compression, anchorage values for hook and bend.	1		Dt- 18.04.2022
	Problem discussion on checking of development length criteria in beams.	1		Dt- 19.04.2022
5	UNIT - 5 : Analysis and design of T – Beam (LSM)	15		
	General features, advantages, effective width of flange	1		Dt- 20.04.2022
	Finding out position of neutral axis, Analysis of singly reinforced T – beam, stress-strain diagram	1		Dt- 20.04.2022
	Problem discussion on finding moment of resistance of a T- beam section with N.A lies within the flange.	1		Dt - 21.04.2022
	CLASS TEST - II	1		Dt- 22.04.2022
	Analysis of a T – beam section	1		Dt- 25.04.2022
	Design of a T – beam section	1		Dt- 26.04.2022
	Derivation of formula for T – beam section when the N.A lies in the web	1		Dt- 27.04.2022
	Problem discussion on design of simply supported beam along with provision of check for flexure	1		Dt- 27.04.2022
	Design of simply supported beam along with check for shear and development length.	1	MAY	Dt- 04.05.2022
	Design of simply supported beam along with check for deflection and detailing of the beam	1		Dt - 05.05.2022
	Problem discussion on analysis of the T – Beam section	1		Dt - 06.05.2022
	Problem discussion on design of the T – Beam section	1		Dt - 06.05.2022
	Problem discussion on design of the T – Beam section	1		Dt- 09.05.2022
	Revision	1		Dt- 10.05.2022
	CLASS TEST - III	1		Dt - 11.05.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
6	UNIT - 6 : Analysis and Design of Slab and Stair case (LSM)	15		
	Concept of one way and two way spanning slab, reinforcement requirement, shear stress, spacing of reinforcement, cover and development length criteria for slab	1		Dt - 12.05.2022
	Design of simply supported one way slab with design of flexure	1		Dt - 17.05.2022
	Design of slab with check for shear and development length.	1		Dt - 18.05.2022
	Design of slab with check for deflection and detailing of the slab.	1		Dt - 19.05.2022
	Design of cantilever slab with check for flexure, check for shear, development length, deflection and detailing of the slab	1		Dt - 20.05.2022
	Design of two way simply supported slab- moment and shear force calculation	1		Dt - 23.05.2022
	Design of two way slab with corners free to lift – design of flexure	1		Dt - 24.05.2022
	Design of two way slab with provision of check for shear and development length	1		Dt - 25.05.2022
	Design of two way slab with check for deflection and detailing of the slab	1		Dt - 25.05.2022
	Types of staircase, structural classification of staircase, Loads and their effect on stair slab	1		Dt - 26.05.2022
	Design of stair slab spanning longitudinally – design of main bar, distribution bar and detailing of the staircase	1		Dt - 27.05.2022
	Design of a waist slab type dog legged stair case – load and moment calculation	1		Dt - 31.05.2022
	Design of a waist slab type dog legged stair case – design of main bar, distribution bar and detailing of the slab	1	JUNE	Dt - 01.06.2022
	Problems discussion of slabs	1		Dt - 02.06.2022
	Problems discussion of stair case.	1		Dt - 03.06.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
7	UNIT - 7 : Design of axially loaded columns and footing (LSM)	18		
	definition and classification of column, assumptions in limit state of collapse	1		Dt-06.06.2022
	Effective length of column, specification for longitudinal & transverse reinforcement.	1		Dt-07.06.2022
	Minimum eccentricity and ultimate load carrying capacity of column	1		Dt-08.06.2022
	Design of a short axially loaded square column and detailing	1		Dt-09.06.2022
	Design of a short axially loaded square column and detailing problems	1		Dt-10.06.2022
	Design of a short axially loaded rectangular column and detailing	1		Dt-13.06.2022
	Design of a short axially loaded rectangular column and detailing problems	1		Dt-16.06.2022
	Design of a short axially loaded circular column and detailing	1		Dt-17.06.2022
	Design of a short axially loaded circular column and detailing problems	1		Dt-20.06.2022
	Definition, Types of foundation, Bearing capacity of soil & depth of foundation, determination of area of footing from load and bearing capacity of soil	1		Dt-21.06.2022
	Analysis of foundation – critical section for bending moment and shear force, transfer of load at base of column	1		Dt-22.06.2022
	Design of isolated square footing for column – design of flexure	1		Dt-23.06.2022
	Design of isolated square footing for column – shear one way action and two way action	1		Dt-24.06.2022
	Design of isolated square footing for column – development length, load transfer from column to footing & detailing	1		Dt-27.06.2022
	Design of isolated square footing for column – design of flexure	1		Dt-28.06.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Design of isolated square footing for column – shear one way action and two way action, development length & detailing	1		Dt-29.06.2022
	Problems on isolated square footing	1		Dt- 30.06.2022
	Revision	1		Dt - 30.06.2022

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THEORY LESSON PLAN FOR THE SESSION 2021-22

BRANCH : CIVIL ENGG. SEMESTER : 4TH, SECTION :- (C1 & C2)

**NAME OF THE FACULTY : (1) ER. SWARNAPRAVA PARIDA
(2) ER. NANDINI PRADHAN (LECT. IN CIVIL ENGG.)**

SEMESTER FROM : 14.03.2022 to 30.06.2022

THEORY SUBJECT : HYDRAULIC & IRRIGATION ENGINEERING (TH-2)

CLASS ALLOTTED /WEEK : 05 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	UNIT-1 : HYDROSTATICS	12	MARCH	
	Introduction to fluid, Properties of fluid	1		Dt - 14/03/2022
	Discussion on properties of fluid i.e. Surface tension, capillarity, viscosity	1		Dt - 14/03/2022
	Discussion on properties of fluid Density, specific gravity of fluids.	1		Dt - 15/03/2022
	Uses of fluid.	1		Dt - 16/03/2022
	Discussion on water Pressure and its measurements	1		Dt - 17/03/2022
	Intensity of pressure, atmospheric Pressure, gauge pressure	1		Dt - 17/03/2022
	Discussion on Absolute pressure and vacuum pressure;	1		Dt - 21/03/2022
	Relationship between atmospheric pressure, absolute pressure and gauge pressure;	1		Dt - 22/03/2022
	What is pressure head & pressure gauges?	1		Dt - 23/03/2022
	Pressure exerted on an immersed surface: Total pressure, resultant pressure,	1		Dt - 23/03/2022
	Expression for total pressure exerted on horizontal & vertical surface.	1		Dt - 24/03/2022
	Problem based on total pressure, gauge pressure, resultant pressure, absolute pressure, pressure head and pressure gauges	1		Dt - 25/03/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	UNIT-2 : KINEMATICS OF FLUID FLOW	18		
	Equation of continuity of liquid flow,	1		Dt - 28/03/2022
	Total energy of a liquid in motion i.e. potential, kinetic & pressure,	1		Dt - 29/03/2022
	Bernoulli's theorem and its limitations. Practical applications of Bernoulli's equation.	1		Dt - 30/03/2022
	Flow over Notches and Weirs	1		Dt - 30/03/2022
	Discussion on Notches, Weirs, types of notches and weirs	1		Dt - 31/03/2022
	Discharge through different types of notches	1	APRIL	Dt - 04/04/2022
	Discharge through different types of weirs	1		Dt - 05/04/2022
	Problems regarding discharge through notches & weirs.	1		Dt - 06/04/2022
	Applications of discharge through notches & weirs	1		Dt - 07/04/2022
2	Types of flow through the pipes: uniform and non uniform; laminar and turbulent; steady and unsteady flow	1		Dt - 08/04/2022
	Reynold's number and its application	1		Dt - 08/04/2022
	Losses of head of a liquid flowing through pipes	1		Dt - 11/04/2022
	Problems regarding lossess of head of a liquid through pipes.	1		Dt - 12/04/2022
	Different types of major and minor losses.	1		Dt - 13/04/2022
	Simple numerical problems on losses due to friction using Darcy's equation	1		Dt - 18/04/2022
	Total energy lines & hydraulic gradient lines.	1		Dt - 19/04/2022
	Flow through the Open Channels: Types of channel sections-rectangular, trapezoidal and circular, discharge formulae.	1		Dt - 20/04/2022
	Chezy's and Manning's equation, Best economical section.	1		Dt - 21/04/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	UNIT - 3 : PUMPS	5		
	Type of pumps. Centrifugal pump & Reciprocating pump	1		St - 22/04/2022
	Introduction to centrifugal pump, Basic principles, operation	1		St - 25/04/2022
	Discharge of centrifugal pump. Horse power & efficiency of centrifugal pump.	1		St - 26/04/2022
	Introduction to Reciprocating pumps & its types	1		St - 27/04/2022
	Operation, discharge, horse power & efficiency of Reciprocating pumps	1	MAY	St - 04/05/2022
4	UNIT - 4 : Hydrology	4		
	Introduction to Hydrology, Hydrology Cycle	1		St - 05/05/2022
	Rainfall : types, intensity, hyetograph	1		St - 05/05/2022
	Estimation of rainfall, rain gauges, Its types	1		St - 06/05/2022
	Concept of catchment area, types, run-off, estimation of flood discharge by Dicken's and Ryve's formulae	1		St - 09/05/2022
5	UNIT - 5 : Water Requirement of Crops	4		
	Definition of irrigation, necessity, benefits of irrigation, types of irrigation.	1		St - 10/05/2022
	Different types of Crop season	1		St - 11/05/2022
	Duty, Delta and base period their relationship, overlap allowance, kharif and rabi crops	1		St - 12/05/2022
	Gross command area, culturable command area, Intensity of Irrigation, irrigable area, time factor, crop ratio	1		St - 13/05/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
6	UNIT - 6 : FLOW IRRIGATION	7		
	Introduction to Canal Irrigation & types of canals	1		At - 17/05/2022
	Discussion on Loss of water in canals	1		At - 18/05/2022
	Perennial irrigation	1		At - 19/05/2022
	Different components of irrigation canals and their functions	1		At - 20/05/2022
	Sketches of different canal cross-sections	1		At - 20/05/2022
	Classification of canals according to their alignment, Various types of canal lining	1		At - 23/05/2022
	Advantages and disadvantages of canal lining.	1		At - 24/05/2022
7	UNIT - 7 : WATER LOGGING AND DRAINAGE	2		At
	Causes and effects of water logging,	1		At - 25/05/2022
	Detection, prevention and remedies of water logging.	1		At - 26/05/2022
8	UNIT - 8 : DIVERSION HEAD WORKS AND REGULATORY STRUCTURES	8		
	Necessity of diversion head works.	1		At - 27/05/2022
	Objectives of diversion head works.	1		At - 31/05/2022
	Weirs & Barrages	1	JUNE	At - 01/06/2022
	General layout and Different parts of Barrages	1		At - 02/06/2022
	Functions of different parts of barrage	1		At - 03/06/2022
	Silting and scouring & How it occurs?	1		At - 06/06/2022
	Functions of regulatory structures	1		At - 07/06/2022
	CLASS TEST - I	1		At - 08/06/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
9	UNIT - 9 : CROSS DRAINAGE WORKS	7		
	Introduction to Cross drainage works.	1		dt- 09/06/2022
	Necessity of Cross drainage works	1		dt- 09/06/2022
	Functions of Cross drainage works	1		dt- 10/06/2022
	Different types of CD-works. Aqueduct, siphon aqueduct, super-passage, level crossing	1		dt- 13/06/2022
	Concept of aqueduct & Syphon aqueduct with help of neat sketch	1		dt- 16/06/2022
	Concept of Super Passage & Level crossing with help of neat sketch	1		dt- 17/06/2022
	Revision	1		dt- 20/06/2022
10	UNIT - 10 : DAMS	8		
	Necessity of storage reservoirs & types of dams	1		dt- 21/06/2022
	Earthen dams & its Types,	1		dt- 22/06/2022
	Causes of failure of Earthen dam and protection measures.	1		dt- 23/06/2022
	Gravity dam & its types	1		dt- 24/06/2022
	Causes of failure of Gravity dam and protection measures.	1		dt- 27/06/2022
	Spillways & its Types (With Sketch)	1		dt- 28/06/2022
	Necessity of Spillways	1		dt- 29/06/2022
	CLASS TEST - II	1		dt- 30/06/2022

Swarnagruha Pande N. Pradhan
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Mabita Sahu
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Pratik Choudhary
26/06/2022
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P.C.I.E.T., CHHENDIPADA, DIST- ANGUL
THEORY LESSON PLAN FOR THE SESSION 2021-22

BRANCH : CIVIL ENGG. SEMESTER : 4TH, SECTION :- (C1 & C2)

NAME OF THE FACULTY : (1) ER. SIBANI SAHU, (2) ER. PRITAM SAGAR SAHOO, (3) ER. SUMANTA SAHOO (LECT. IN CIVIL ENGG.)

SEMESTER FROM : 14.03.2022 to 30.06.2022

THEORY SUBJECT : SURVEYING - I (TH-3)

CLASS ALLOTTED /WEEK : 05 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT - 1 : INTRODUCTION TO SURVEYING, LINEAR MEASUREMENTS	7	MARCH	
	Surveying: Definition, Aims and objectives	1		Dt - 14/03/2022
	Principles of survey-Plane surveying- Geodetic Surveying- Instrumental surveying.	1		Dt - 14/03/2022
	Precision and accuracy of measurements, instruments used for measurement of distance,	1		Dt - 15/03/2022
	Types of tapes and chains.	1		Dt - 16/03/2022
	Errors and mistakes in linear measurement – classification, Sources of errors and remedies.	1		Dt - 17/03/2022
	Corrections to measured lengths due to-incorrect length, temperature variation, pull, sag,	1		Dt - 21/03/2022
	Numerical problem applying corrections:	1		
2	UNIT - 2 : CHAINING & CHAIN SURVEYING	7		
	Equipment and accessories for chaining	1		Dt - 22/03/2022
	Ranging – Purpose, signaling, direct and indirect ranging, Line ranger – features and use, error due to incorrect ranging.	1		Dt - 22/03/2022
	Methods of chaining –Chaining on flat ground, Chaining on sloping ground – stepping method, Clinometer-features and use, slope correction.	1		Dt - 23/03/2022
	Setting perpendicular with chain & tape, Chaining across different types of obstacles –Numerical problems on chaining across obstacles.	1		Dt - 24/03/2022
	Purpose of chain surveying, Its Principles, concept of field book. Selection of survey stations, base line, tie lines, Check lines.	1		Dt - 25/03/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	Offsets – Necessity, Perpendicular and Oblique offsets, Instruments for setting offset – Cross Staff, Optical Square.	1		Dt - 28/03/2022
	Errors in chain surveying – compensating and accumulative errors causes & remedies, Precautions to be taken during chain surveying.	1		Dt - 29/03/2022
	UNIT - 3 : ANGULAR MEASUREMENT & COMPASS SURVEYING	12		Dt - 30/03/2022
	Measurement of angles with chain, tape & compass.	1		Dt - 30/03/2022
	Compass – Types, features, parts, merits & demerits, testing & adjustment of compass	1		Dt - 31/03/2022
	Designation of angles- concept of meridians – Magnetic, True, arbitrary; Concept of bearings – Whole circle bearing, Quadrantal bearing	1	APRIL	Dt - 04/04/2022
	Reduced bearing, suitability of application Numerical problems on conversion of bearings	1		Dt - 04/04/2022
	Use of compasses – setting in field-centering, leveling, taking readings, concepts of Fore bearing, Back Bearing	1		Dt - 05/04/2022
	Numerical problems on computation of interior & exterior angles from bearings.	1		Dt - 06/04/2022
	Errors in angle measurement with compass – sources & remedies	1		Dt - 07/04/2022
	Principles of traversing – open & closed traverse, Methods of traversing.	1		Dt - 08/04/2022
	Local attraction – causes, detection, errors, corrections, Numerical problems of application of correction due to local attraction.	1		Dt - 11/04/2022
	Errors in compass surveying – sources & remedies.	1		Dt - 12/04/2022
	Plotting of traverse – check of closing error in closed & open traverse.	1		Dt - 13/04/2022
	Bowditch's correction, Gales table	1		Dt - 18/04/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
4	UNIT - 4 : MAP READING CADASTRAL MAPS & NOMENCLATURE	7		
	Study of direction, Scale, Grid Reference and Grid Square.	1		Dt - 19/04/2022
	Study of Signs and Symbols	1		Dt - 20/04/2022
	Cadastral Map Preparation Methodology	1		Dt - 21/04/2022
	Unique Identification number of parcel	1		Dt - 22/04/2022
	Positions of existing Control Points and its types	1		Dt - 25/04/2022
	Adjacent Boundaries and Features, Topology Creation and verification.	1		Dt - 26/04/2022
	CLASS TEST - I	1		Dt - 27/04/2022
5	UNIT - 5 : PLANE TABLE SURVEYING	7	MAY	
	Objectives, principles and use of plane table surveying.	1		Dt - 04/05/2022
	Instruments & accessories used in plane table surveying.	1		Dt - 04/05/2022
	Methods of plane table surveying – (1) Radiation, (2) Intersection, (3) Traversing, (4) Resection	1		Dt - 05/05/2022
	Statements of Two point problem.	1		Dt - 06/05/2022
	Statements of Three point problem.	1		Dt - 09/05/2022
	Errors in plane table surveying and their corrections, precautions in plane table surveying.	1		Dt - 10/05/2022
	Errors in plane table surveying and their corrections, precautions in plane table surveying.	1		Dt - 11/05/2022
6	UNIT - 6 : THEODOLITE SURVEYING AND TRAVERSING	15		
	Purpose and definition of theodolite surveying	1		Dt - 12/05/2022
	Transit theodolite- Description of features, component parts, Fundamental axes of a theodolite,	1		Dt - 13/05/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Concept of vernier, reading a vernier, Temporary adjustment of theodolite.	1		Dt - 17/05/2022
	Concept of transiting –Measurement of horizontal and vertical angles.	1		Dt - 18/05/2022
	Measurement of magnetic bearings, deflection angle, direct angle, setting out angles, prolonging a straight line with theodolite.	1		Dt - 19/05/2022
	Errors in Theodolite observations.	1		Dt - 20/05/2022
	Methods of theodolite traversing with – inclined angle method, deflection angle method, bearing method	1		Dt - 23/05/2022
	Plotting the traverse by coordinate method, Checks for open and closed traverse.	1		Dt - 24/05/2022
	Traverse computation – consecutive coordinates, latitude and departure, Gale's traverse table,	1		Dt - 25/05/2022
	Numerical problems on omitted measurement of lengths & bearings	1		Dt - 26/05/2022
	Closing error – adjustment of angular errors, adjustment of bearings	1		Dt - 27/05/2022
	Numerical problems based on bearing & adjustment of angular errors	1		Dt - 31/05/2022
	Balancing of traverse – Bowditch's method.	1		Dt - 31/05/2022
	Balancing of traverse - Transit method, graphical method, axis method	1	JUNE	Dt - 01/06/2022
	Calculation of area of closed traverse & Numerical Problems.	1		Dt - 02/06/2022
	UNIT - 7 : LEVELLING AND CONTOURING	15		
	Definition and Purpose and types of leveling– concepts of level surface, Horizontal surface, vertical surface, datum, R. L., B.M.	1		Dt - 03/06/2022
7	Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis.	1		Dt - 03/06/2022
	Levelling staff – Temporary adjustments of level, taking reading with level, concept of bench mark, BS, IS, FS, CP, HI.	1		Dt - 06/06/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Field data entry – level Book – height of collimation method and Rise & Fall method, comparison,	1		Dt - 07/06/2022
	Numerical problems on reduction of levels applying both methods, Arithmetic checks.	1		Dt - 08/06/2022
	Effects of curvature and refraction, numerical problems on application of correction.	1		Dt - 09/06/2022
	Reciprocal leveling – principles, methods, numerical problems, precise leveling.	1		Dt - 10/06/2022
	Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels.	1		Dt - 13/06/2022
	Definitions, concepts and characteristics of contours	1		Dt - 16/06/2022
	Methods of contouring, plotting contour maps, Interpretation of contour maps, toposheets.	1		Dt - 17/06/2022
	Use of contour maps on civil engineering projects – drawing cross-sections from contour maps.	1		Dt - 20/06/2022
	Locating proposal routes of roads / railway / canal on a contour map, computation of volume of earthwork from contour map for simple structure.	1		Dt - 21/06/2022
	Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.)	1		Dt - 22/06/2022
	Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making	1		Dt - 23/06/2022
	Revision	1		Dt - 24/06/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
8	UNIT - 8 : COMPUTATION OF AREA & VOLUME	5		
	Determination of areas, computation of areas from plans	1		Dt - 27/06/2022
	Calculation of area by using ordinate rule, trapezoidal rule, Simpson's rule.	1		Dt - 27/06/2022
	Calculation of volumes by prismoidal formula and trapezoidal formula	1		Dt - 28/06/2022
	Prismoidal corrections, curvature correction for volumes.	1		Dt - 29/06/2022
	Revision & Class Test - I	1		Dt - 30/06/2022

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THEORY LESSON PLAN FOR THE SESSION 2021-22

BRANCH : CIVIL ENGG. SEMESTER : 4TH, SECTION :- (C1 & C2)

**NAME OF THE FACULTY : (1) ER. SUNIL KUMAR SAHU
(2) ER. SIBANI SAHU (LECT. IN CIVIL ENGG.)**

SEMESTER FROM : 14.03.2022 to 30.06.2022

THEORY SUBJECT : HIGHWAY ENGINEERING (TH-4)

CLASS ALLOTTED /WEEK : 05 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT-1 : Introduction	5		
	Importance of Highway transportation: importance organizations like Indian roads congress,	1	MARCH	DE - 14/03/2022
	Ministry of Surface Transport, Central Road Research Institute.	1		DE - 15/03/2022
	Functions of Indian Roads Congress	1		DE - 16/03/2022
	IRC classification of roads	1		DE - 17/03/2022
	Organisation of state highway department	1		DE - 17/03/2022
2	UNIT-2 :Road Geometrics	20		
	Glossary of terms used in geometric	1		DE - 21/03/2022
	Importance of geometric design	1		DE - 22/03/2022
	Discussion on right of way, formation width	1		DE - 23/03/2022
	Load margin, road shoulder, carriage way,	1		DE - 24/03/2022
	Side slopes, kerbs, formation level, camber and gradient	1		DE - 25/03/2022
	Design and average running speed,	1		DE - 25/03/2022
	Problems based on sight distance	1		DE - 28/03/2022
	Problems based on sight distance	1		DE - 29/03/2022
	Stopping and passing sight distance	1		DE - 30/03/2022
	Problems based on SSD	1		DE - 31/03/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Problems based on SSD	1	ARRIL	DE - 04/04/2022
	Necessity of curves,	1		DE - 5/04/2022
	Horizontal and vertical curves	1		DE - 06/04/2022
	Transition curves	1		DE - 07/04/2022
	Super elevation,	1		DE - 08/04/2022
	Methods of providing super - elevation	1		DE - 11/04/2022
	Problems based on superelevation	1		DE - 11/04/2022
	Problems based on superelevation	1		DE - 12/04/2022
	Revision	1		DE - 13/04/2022
	Class test	1		DE - 18/04/2022
	Unit-3 : Road Materials	9		
	Difference types of road materials in use: soil, aggregates, and binders	1		DE - 19/04/2022
	Difference types of road materials in use: soil, aggregates, and binders	1		DE - 20/04/2022
	Function of soil as highway Subgrade	1		DE - 21/04/2022
	California Bearing Ratio: methods of finding CBR valued in the laboratory and at site and their significance	1		DE - 22/04/2022
3	California Bearing Ratio: methods of finding CBR valued in the laboratory and at site and their significance	1		DE - 25/04/2022
	Testing aggregates: Abrasion test,	1		DE - 26/04/2022
	impact test, crushing strength test,	1		DE - 27/04/2022
	water absorption test & soundness test	1	MAY	DE - 04/05/2022
	Revision	1		DE - 05/05/2022

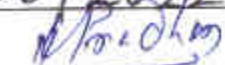
Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	UNIT-4 : Road Pavements	13		
	Road Pavement: Flexible and rigid pavement, their merits and demerits,	1		Dt - 06/05/2022
	typical cross-sections, functions of various components Flexible pavements:	1		Dt - 06/05/2022
	Sub-grade preparation; Setting out alignment of road, setting out bench marks, control pegs for embankment and cutting,	1		Dt - 9/05/2022
	Borrow pits, making profile of embankment, construction of embankment, compaction, stabilization, preparation of subgrade, methods of checking camber,	1		Dt - 10/05/2022
	Gradient and alignment as per recommendations of IRC, equipment used for subgrade preparation	1		Dt - 11/05/2022
4	Sub base Course: Necessity of sub base, stabilized sub base, purpose of stabilization	1		Dt - 12/05/2022
	Types of stabilization:- Mechanical stabilization, Lime stabilization	1		Dt - 13/05/2022
	Cement stabilization, Fly ash stabilization	1		Dt - 17/05/2022
	Base Course: Preparation of base course, Brick soling, stone soling and metalling,	1		Dt - 18/05/2022
	Water Bound Macadam and wet-mix Macadam, Bituminous constructions: Different types	1		Dt - 19/05/2022
	Surfacing: Surface dressing (i) Premix carpet and (ii) Semi dense carpet	1		Dt - 20/05/2022
	Bituminous concrete, Grouting	1		Dt - 20/05/2022
	Rigid Pavements: Concept of concrete roads as per IRC specifications	1		Dt - 23/05/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
5	UNIT-5 : Hill Roads:	7		Dt - 24/05/2022
	Introduction:	1		Dt - 25/05/2022
	Typical cross-sections showing all details of a typical hill road in cut, partly in cutting and partly in filling	1		Dt - 26/05/2022
	Typical cross-sections showing all details of a typical hill road in cut, partly in cutting and partly in filling	1		Dt - 26/05/2022
	Breast Walls,	1		Dt - 27/05/2022
	Retaining walls,	1		Dt - 31/05/2022
	Different types of bends	1	JUNE	Dt - 01/06/2022
	Class test	1		Dt - 02/06/2022
6	UNIT-6 : Road Drainage:	7		D
	Necessity of road drainage work,	1		Dt - 03/06/2022
	Cross drainage works	1		Dt - 06/06/2022
	Surface and sub-surface drains and storm water drains.	1		Dt - 07/06/2022
	Location, spacing and typical details of side drains,	1		Dt - 08/06/2022
	Side ditches for surface drainage, intercepting drains,	1		Dt - 09/06/2022
	Pipe drains in hill roads,	1		Dt - 10/06/2022
	details of drains in cutting embankment, typical cross sections.	1		Dt - 13/06/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
7	UNIT-7 : Road Maintenance	7		
	Common types of road failures	1		Dt - 13/06/2022
	Causes and remedies of road failures	1		Dt - 16/06/2022
	Maintenance of bituminous road such as patch work and resurfacing	1		Dt - 16/06/2022
	Maintenance of concrete roads – filling cracks, repairing joints,	1		Dt - 17/06/2022
	Maintenance of shoulders (berm), maintenance of traffic control devices	1		Dt - 20/06/2022
	Basic concept of traffic study, Traffic safety and traffic control signal	1		Dt - 21/06/2022
	Revision	1		Dt - 21/06/2022
8	UNIT-8 : Construction equipments:	7		
	Preliminary ideas of Hot mixing plant	1		Dt - 22/06/2022
	Tipper, tractors (wheel and crawler) scraper, bulldozer,	1		Dt - 23/06/2022
	Dumpers, shovels, graders, roller dragline	1		Dt - 24/06/2022
	Asphalt mixer and tar boilers	1		Dt - 27/06/2022
	Road pavers	1		Dt - 28/06/2022
	Modern construction equipments for roads.	1		Dt - 29/06/2022
	Class test	1		Dt - 30/06/2022


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THEORY LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 5TH, SECTION :- (C1 & C2)

**NAME OF THE FACULTY : ANUPAMA BEHERA
(LECT. IN MGMT.)**

SEMESTER FROM DT. 01.10.2021 TO 31.01.2022

THEORY SUBJECT : ENTREPRENEURSHIP AND MANAGEMENT & SMART TECHNOLOGY (TH-1)

CLASS ALLOTTED / WEEK: 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT - 1 : Entrepreneurship	10	OCTOBER	
	Concept /Meaning of Entrepreneurship and Need of Entrepreneurship	1	-2021	Dt. 01.10.2021 & 04.10.2021
	Characteristics, Qualities and Types of entrepreneur, Functions	1		Dt. 05.10.2021
	Barriers in entrepreneurship	1		Dt. 07.10.2021
	Entrepreneurs vrs. Manager	1		Dt. 08.10.2021
	Forms of Business Ownership: Sole proprietorship, partnership forms and others	1		Dt. 09.10.2021
	Types of Industries, Concept of Start-ups	1		Dt. 18.10.2021 & Dt 19.10.2021
	Entrepreneurial support agencies at National, State, District Level(Sources): DIC, NSIC,OSIC, SIDBI, NABARD, Commercial Banks, KVIC etc.	2		Dt. 20.10.2021 & Dt.21.10.2021
	Technology Business Incubators (TBI) and Science and Technology Entrepreneur Parks	2		Dt. 22.10.2021 & Dt.23.10.2021
2	UNIT - 2 : Market Survey and Opportunity Identification (Business Planning)	8		
	Business Planning	2		Dt.23.10.2021 & Dt.25.10.2021
	SSI, Ancillary Units, Tiny Units, Service sector Units	1		Dt. 26.10.2021
	Time schedule Plan, Agencies to be contacted for Project Implementation	1	NOVEMBER	Dt. 01.11.2021
	Assessment of Demand and supply and Potential areas of Growth	1	-2021	Dt. 08.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Assessment of Demand and supply and Potential areas of Growth	1		Dt. 03.11.2021
	Identifying Business Opportunity	1		Dt. 05.11.2021
	Final Product selection	1		Dt. 06.11.2021
3	UNIT - 3 : Project report Preparation	4		
	Preliminary project report	1		Dt. 08.11.2021
	Detailed project report, Techno economic Feasibility	2		Dt. 09.10.2021 & 10.11.2021
	Project Viability	1		Dt. 11.11.2021
4	UNIT - 4 : Management Principles	5		
	Definitions of management and Principles of management	1		Dt. 12.11.2021
	Functions of management (planning, organising, staffing, directing and controlling etc.)	2		Dt. 15.11.2021
	Level of Management in an Organisation	2		Dt. 16.11.2021
5	UNIT - 5 : Functional Areas of Management	10		
	a) Production management: Functions, Activities, Productivity, Quality control, Production Planning and control	2		Dt. 17.11.2021 & Dt. 22.11.2021
	b) Inventory Management: Need for Inventory management, Models/Techniques of Inventory management	1		Dt. 23.11.2021
	c) Financial Management: Functions of Financial management, Management of Working capital, Costing (only concept), Break even Analysis, Brief idea about Accounting Terminologies: Book Keeping, Journal entry, Petty Cash book, P&L Accounts, Balance Sheets(only Concepts)	3		Dt. 24.11.2021, Dt. 25.11.2021 & Dt. 26.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	d) Marketing Management: Concept of Marketing and Marketing Management, Marketing Techniques (only concepts), Concept of 4P s (Price, Place, Product, Promotion)	2		Dt. 29.11.2021 & Dt. 30.11.2021
	e) Human Resource Management: Functions of Personnel Management, Manpower Planning, Recruitment, Sources of manpower, Selection process, Method of Testing, Methods of Training & Development, Payment of Wages	2	DECEMBER - 2021	Dt. 01.12.2021 & Dt. 03.12.2021
6	UNIT- 6 : Leadership and Motivation	6		
	a) Leadership: Definition and Need/Importance, Qualities and functions of a leader, Manager Vs Leader, Style of Leadership (Autocratic, Democratic, Participative)	2		Dt. 06.12.2021 & Dt. 07.12.2021
	b) Motivation: Definition and characteristics, Importance of motivation, Factors affecting motivation, Theories of motivation (Maslow), Methods of Improving Motivation, Importance of Communication in Business, Types and Barriers of Communication	4		Dt. 08.12.2021, Dt. 10.12.2021 & Dt. 13.12.2021, Dt. 14.12.2021
	UNIT - 7 : Work Culture, TQM & Safety	5		
	Human relationship and Performance in Organization	1		Dt. 15.12.2021
	Relations with Peers, Superiors and Subordinates	1		Dt. 17.12.2021
7	TQM concepts: Quality Policy, Quality Management, Quality system	2		Dt. 20.12.2021 & Dt. 21.12.2021
	Accidents and Safety, Cause, preventive measures, General Safety Rules, Personal Protection Equipment (PPE)	1		Dt. 22.12.2021 & Dt. 24.12.2021 Revision:- 27.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
8	UNIT - 8 : Legislation	6		
	Intellectual Property Rights(IPR), Patents, Trademarks, Copyrights	2		Dt. 28.12.2021 & Dt. 29.12.2021 Revision:- 31.12.2021
	Features of Factories Act 1948 with Amendment (only salient points)	2	JANUARY - 2022	Dt. 3.01.2022, Dt. 04.01.2022 & Dt. 5.01.2022
	Features of Payment of Wages Act 1936 (only salient points)	2		Dt. 07.01.2022, Dt. 10.01.2022 & Dt. 11.01.2022
9	UNIT - 9 : Smart Technology	6		
	Concept of IOT, How IOT works	1		Dt. 12.01.2022 & Dt. 17.01.2022
	Components of IOT, Characteristics of IOT, Categories of IOT	2		Dt. 18.01.2022 , Dt. 19.01.2022 Revision:- 21.01.2022
	Applications of IOT- Smart Cities, Smart Transportation, Smart Home, Smart Healthcare, Smart Industry, Smart Agriculture, Smart Energy Management etc.	3		Dt. 24.01.2022, Dt. 25.01.2022. & Dt. 28.01.2022 Revision:- 31.01.2022

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THEORY LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 5TH, SECTION :- (C1 & C2)

**NAME OF THE FACULTY : (1) ER. SUJATA DALEI
(2) ER. PRITAM SAGAR SAHOO (LECT. IN CIVIL ENGG.)**

SEMESTER FROM DT. 01.10.2021 TO 31.01.2022

THEORY SUBJECT : STRUCTURAL DESIGN - II (TH-2)

CLASS ALLOTTED / WEEK: 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT-1: Introduction	6	OCTOBER	
	Common steel structures, Advantages & disadvantages of steel structures	1		2.10.2021 & 04.10.2021
	Types of steel, properties of structural steel	1		05.10.2021
	Rolled steel sections, special considerations in steel design	1		07.10.2021
	Loads and load combinations.	1		08.10.2021
	Structural analysis and design philosophy	1		09.10.2021
	Brief review of Principles of Limit State design	1		18.10.2021
2	UNIT-2 : Structural Steel Fasteners and Connections.	10		
	Bolted Connections Classification of bolts, advantages and disadvantages of bolted connections	1		19.10.2021 & 20.10.2021
	Different terminology, spacing and edge distance of bolt holes.	1		21.10.2021
	Types of bolted connections.	1		22.10.2021
	Types of action of fasteners, assumptions and principles of design.	1		23.10.2021
	Strength of plates in a joint, strength of bearing type bolts (shear capacity & bearing capacity), reduction factors, and shear capacity of HSFG bolts.	1		25.10.2021 & 26.10.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Analysis & design of Joints using bearing type and HSFG bolts. Efficiency of a joint	1	NOVEMBER 2021	1.11.2021
	Welded Connections	1		2.11.2021
	Advantages and Disadvantages of welded connection	1		3.11.2021
	Types of welded joints and specifications for welding.	1		5.11.2021
	Design stresses in welds, Strength of welded joints.	1	6.11.2021 & 8.11.2021
	UNIT - 3 : Design of Steel tension Members	10		
	Common shapes of tension members	1		9.11.2021
	Types of failure of tension members	1		10.11.2021
	Design strength of a tension member (i) due to yielding of gross section	1		11.11.2021
	Design strength of a tension member (ii) due to rupture of critical section	1		12.11.2021
3	Design strength of a tension member (ii) due to block shear of bolted connection	1		15.11.2021
	Design strength of a tension member (ii) due to block shear of welded connection	1		16.11.2021 & 17.11.2021
	Problems based on design strength of tension member	1		18.11.2021
	Concepts of shear lag	1		22.11.2021
	Maximum values of effective slenderness ratio.	1		23.11.2021
	Revision	1		25.11.2021
	UNIT - 4 : Design of Steel Compression Members	10		26.11.2021
4	Common shapes of compression members	1		29.11.2021
	Buckling class of cross sections	1		30.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Maximum values of slenderness ratio, Radius of Gyration	1	DECEMBER 2021	2.12.2021 & 3.12.2021
	Design compressive stress and strength of compression members.	1		6.12.2021, 7.12.2021 & 9.12.2021
	Design compressive stress for columns	1		10.12.2021 & 13.12.2021
	Problems based on design compressive stress for columns	1		14.12.2021 & 16.12.2021
	Problems based on compressive stress and strength of compression members.	1		17.12.2021, 20.12.2021
	Analysis and Design of compression members (axial load only).	1		20.12.2021 & 21.12.2021
	Problems regarding Design of compression members	1		23.12.2021
	Revision	1		23.12.2021
	UNIT - 5 : Design of Steel Beams	10		
	Common cross sections and their classification	1		24.12.2021
	Deflection limits as per IS Code	1		27.12.2021
	Discussion on Web Buckling	1		26.12.2021
	Discussion on Web crippling	1		30.12.2021
	Design of laterally supported beams against bending	1		31.12.2021
5	Problems based on design of laterally supported beams against bending	1	JANUARY 2022	03.01.2022
	Design of laterally supported beams against shear	1		03.01.2022
	Problems based on design of laterally supported beams against shear	1		04.01.2022
	Problems discussion	1		06.01.2022
	Class Test - I	1		06.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
6	UNIT - 6 : Design of Tubular Steel Structures	6		07.01.2022
	Round Tubular Sections	1		07.01.2022
	Permissible Stresses	1		07.01.2022
	Tubular Compression members	1		10.01.2022
	Tubular Tension members	1		11.01.2022
	Joints in Tubular trusses	1		13.01.2022
	Revision	1		13.01.2022
7	UNIT- 7 : Design of Masonry Structures	9		
	Introduction to masonry structures	1		17.01.2022
	Design considerations for Masonry walls	1		18.01.2022
	Design considerations for columns	1		20.01.2022
	Problems based on design considerations for masonry walls & columns	1		21.01.2022
	Load Bearing & Non-Load Bearing walls	1		24.01.2022
	Permissible stresses	1		25.01.2022
	Slenderness Ratio	1		27.01.2022
	Effective Length, Height & Thickness.	1		28.01.2022
	Revision	1		31.01.2022

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THEORY LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 5TH, SECTION :- (C1 & C2)

**NAME OF THE FACULTY : (1) ER. SIBANI SAHU
(2) ER. SUMANTA KUMAR SAHOO (LECT. IN CIVIL ENGG.)**

SEMESTER FROM DT. 01.10.2021 TO 31.01.2022

THEORY SUBJECT : RAILWAY & BRIDGE ENGINEERING (TH-3)

CLASS ALLOTTED / WEEK: 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT - 1 : Introduction	2	OCTOBER - 2021	
	Railway terminology, Advantages of railways	1		Dt. 01.10.2021 & 4.10.2021
	Classification of Indian Railways	1		Dt. 5.10.2021
2	UNIT - 2 : Permanent Way	5		
	Definition of permanent way	1		Dt. 07.10.2021
	Components of a permanent way	1		Dt. 08.10.2021
	Concept of gauge	1		Dt. 09.10.2021
	Different gauges prevalent in India	1		Dt. 18.10.2021
	Suitability of the gauges under different conditions	1		Dt. 19.10.2021
3	UNIT -3 : Track Materials	10		
	Introduction to Rails	1		Dt. 20.10.2021
	Functions of Rails, requirement of an ideal joint	1		Dt. 21.10.2021
	Types of rail sections, length of rails	1		Dt. 22.10.2021 & Dt. 23.10.2021
	Rail joints – types, requirement of an ideal joint	1		Dt. 25.10.2021
	Purpose of welding of rails & its advantages: Creep- definition, cause & prevention	1	NOVEMBER - 2021	Dt. 26.10.2021 & Dt. 01.11.2021
	Definition, function & requirements of sleepers	1		Dt. 02.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Classification of sleepers. Advantages & disadvantages of different types of sleepers	1		Dt. 03.11.2021
	Functions & requirements of ballast. Materials for ballast	1		Dt. 05.11.2021
	Fixtures for Broad gauge. Connection of rails to rail-fishplate, fish bolts	1		Dt. 06.11.2021 & Dt. 08.11.2021
	Connection of rails to sleepers	1		Dt. 09.11.2021
	UNIT - 4 : Geometric for Broad Gauge	10		
	Typical cross – sections of single & double broad gauge railway track in cutting	1		Dt. 10.11.2021
	Typical cross – sections of single & double broad gauge railway track in embankment	1		Dt. 11.11.2021
	Permanent & temporary land width	1		Dt. 15.11.2021
	Gradients for drainage	1		Dt. 16.11.2021
4	Numerical problems based on Gradients	1		Dt. 17.11.2021
	Introduction on Super elevation	1		Dt. 18.11.2021 & 22.11.2021
	Necessity of Superelevation	1		Dt. 23.11.2021
	Locations of Superelevations	1		Dt. 24.11.2021
	Revision	1		Dt. 25.11.2021
	Class Test-I	1		Dt. 29.11.2021
	UNIT - 5 : Points and Crossings	4		
	Definition of Points & its necessity	1	DECEMBER - 2021	Dt. 30.11.2021 & Dt. 1.12.2021
5	Types of points with diagrams	1		Dt. 02.12.2021 & Dt. 06.12.2021
	Definition of Crossings & its necessity	1		Dt. 07.12.2021
	Types of crossings with diagrams	1		Dt. 08.12.2021 & Dt. 09.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
6	UNIT - 6 : Laying & Maintenance of Track	4		
	Methods of Laying	1		Dt. 13. 12. 2021
	Maintenance of track	1		Dt. 14. 12. 2021
	Duties of a permanent way inspector	1		Dt. 15. 12. 2021 & Dt. 16. 12. 2021
	Revision	1		Dt. 20. 12. 2021
7	UNIT - 7 : Introduction to Bridges	2		
	Definitions & Components of a bridge	1		Dt. 21. 12. 2021
	Classification of bridges , Requirements of an ideal bridge	1		Dt. 22. 12. 2021
8	UNIT - 8 : Bridge Site Investigation, Hydrology & Planning	5		
	Selection of bridge site, Alignment,	1		Dt. 23. 12. 2021
	Determination of Flood Discharge	1		Dt. 27. 12. 2021
	Waterway & economic span	1		Dt. 28. 12. 2021
	Afflux, clearance & free board	1		Dt. 29. 12. 2021
	Revision	1		Dt. 30. 12. 2021
9	UNIT - 9 : Bridge Foundation	8	JANUARY	
	Scour depth minimum depth of foundation	1	- 2022	Dt. 03. 01. 2022
	Types of bridge foundations i.e. spread foundation	1		Dt. 04. 01. 2022
	Pile foundation	1		Dt. 05. 01. 2022
	Caission foundation	1		Dt. 06. 01. 2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Raft foundation	1		Dt. 10.01.2022
	Open well foundations	1		Dt. 11.01.2022
	Coffer dams	1		Dt. 12.01.2022
	Revision	1		Dt. 13.01.2022
	UNIT - 10 : Bridge Substructure and Approaches	5		
	Types of piers	1		Dt. 17.01.2022
	Types of abutments	1		Dt. 17.01.2022
	Types of wing walls	1		Dt. 18.01.2022
	Approaches	1		Dt. 19.01.2022
	Revision	1		Dt. 20.01.2022
	UNIT - 11 : Culvert & Cause ways	5		
	Introduction to Culverts	1		Dt. 20.01.2022
	Types of culverts – brief description	1		Dt. 24.01.2022
	Introduction to Cause ways.	1		Dt. 25.01.2022
	Types of causeways – brief description	1		Dt. 27.01.2022
	Revision	1		Dt. 31.01.2022

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THEORY LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 5TH, SECTION :- (C1 & C2)

NAME OF THE FACULTY : (1) ER. SWARNAPRAVA PARIDA,
(2) ER. BABITA SAHU (LECT. IN CIVIL ENGG.)

SEMESTER FROM DT. 01.10.2021 TO 31.01.2022

THEORY SUBJECT : WATER SUPPLY & WASTE WATER ENGG. (TH-4)

CLASS ALLOTTED / WEEK: 05 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	SECTION A : WATER SUPPLY			
	UNIT - 1 : Introduction to Water Supply, Quantity and Quality of water	10	OCTOBER 2021	
	Necessity of treated water supply	1		Dt. 01.10.2021 & Dt. 04.10.2021
	Per capita demand, variation in water demand	1		Dt. 04.10.2021 & Dt. 05.10.2021
	Factors affecting per capita water demand	1		Dt. 07.10.2021
	Methods of forecasting population, Numerical problems using different methods	1		Dt. 08.10.2021
	Impurities in water – organic and inorganic	1		Dt. 09.10.2021
	Harmful effects of impurities	1		Dt. 18.10.2021
	Analysis of water – physical, chemical and bacteriological	1		Dt. 19.10.2021
	Water quality standards for different uses	1		Dt. 20.10.2021
	Numerical problems using different methods of forecasting population	1		Dt. 21.10.2021 & Dt. 22.10.2021
	Revision	1		Dt. 23.10.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
2	UNIT - 2 : Sources and Conveyance of Water	8		
	Underground sources – aquifer type & occurrence – Infiltration gallery, infiltration well, springs, well	1		Dt. 26.10.2021
	Yield from well- methods of determination, Numerical problems using yield formulae	1		Dt. 27.10.2021
	Intakes – types, description of river intake, reservoir intake, canal intake	1	NOVEMBER 2021	Dt. 01.11.2021
	Pumps for conveyance & distribution – types, selection, installation.	1		Dt. 02.11.2021
	Pipe materials – necessity, suitability, merits & demerits of each type	1		Dt. 03.11.2021 & Dt. 05.11.2021
	Pipe joints – necessity, types of joints, suitability, methods of jointing	1		Dt. 05.11.2021
	Laying of pipes – method	1		Dt. 06.11.2021
3	UNIT - 3 : Treatment of Water	12		
	Introduction to treatment of water, Flow diagram of conventional water treatment system	1		Dt. 08.11.2021
	Plain Sedimentation : Necessity, working principles	1		Dt. 09.11.2021
	Sedimentation tanks – types, essential features	1		Dt. 10.11.2021
	Operation & maintenance of sedimentation tank	1		Dt. 10.11.2021 & Dt. 11.11.2021
	Sedimentation with coagulation: Necessity, principles of coagulation	1		Dt. 12.11.2021
	Types of coagulants, Flash Mixer, Flocculator, Clarifier	1		Dt. 15.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Filtration : Necessity, principles, types of filters	1		Dt. 16.11.2021
	Slow Sand Filter, Rapid Sand Filter and Pressure Filter – essential features	1		Dt. 17.11.2021 & Dt. 18.11.2021
	Disinfection : Necessity, methods of disinfection	1		Dt. 18.11.2021 & Dt. 22.11.2021
	Chlorination – free and combined chlorine demand, available chlorine,	1		Dt. 23.11.2021
	Residual chlorine, pre-chlorination, break point chlorination, super chlorination	1		Dt. 24.11.2021
	Softening of water – Necessity, Methods of softening – Lime soda process and Ion exchange method	1		Dt. 24.11.2021 & Dt. 25.11.2021
4	UNIT - 4 : Distribution System And Appurtenance in Distribution System:	8		
	General requirements, types of distribution system-gravity	1		Dt. 26.11.2021
	Distribution system- direct and combined system	1		Dt. 29.11.2021
	Methods of supply – intermittent and continuous	1		Dt. 30.11.2021
	Distribution system layout	1	DECEMBER	Dt. 01.12.2021
	Types of distribution system, comparison between the various types of distribution system	1		Dt. 02.12.2021
	Valves - types of valves, features of different types of valves	1		Dt. 02.12.2021 & Dt. 03.12.2021
	Uses of valves, purpose-slucce valves, check valves, air valves	1		Dt. 06.12.2021
	Scour valves, Fire hydrants, Water meters	1		Dt. 07.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
5	UNIT - 5 : W/s Plumbing in Building	2		
	Method of connection from water mains to building supply	1		Dt. 08.12.2021
	General layout of plumbing arrangement for water supply in single storied and multi-storied building as per I.S. code.	1		Dt. 09.12.2021
6	SECTION B: WASTE WATER ENGINEERING			
	UNIT - 6 : Introduction	5		
	Aims and objectives of sanitary engineering	1		Dt. 10.12.2021
	Definition of terms related to sanitary engineering	1		Dt. 13.12.2021 & Dt. 14.12.2021
	Systems of collection of wastes- Conservancy and Water Carriage System	1		Dt. 14.12.2021
	Features, comparison, suitability of Conservancy System	1		Dt. 15.12.2021
	Features, comparison, suitability of Water Carriage System	1		Dt. 16.12.2021
7	UNIT - 7 : Quantity and Quality of Sewage	7		
	Quantity of sanitary sewage – domestic & industrial sewage	1		Dt. 17.12.2021
	Variation in sewage flow, numerical problem on computation quantity of sanitary sewage	1		Dt. 17.12.2021 & Dt. 20.12.2021
	Computation of size of sewer, application of Chazy's formula	1		Dt. 21.12.2021
	Limiting velocities of flow : self-cleaning and scouring	1		Dt. 22.12.2021
	General importance, strength of sewage, Characteristics of sewage-physical, chemical & biological	1		Dt. 23.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Concept of sewage-sampling, Tests for – solids	1		Dt. 24.12.2021
	Tests for pH, dissolved oxygen, BOD, COD	1		Dt. 24.12.2021 & Dt. 27.12.2021
	UNIT - 8 : Sewerage System	5		
	Types of system-separate, combined, partially separate, features	1		Dt. 28.12.2021 & Dt. 29.12.2021
	Comparison between the types, suitability	1		Dt. 29.12.2021
8	Shapes of sewer – rectangular, circular	1		Dt. 30.12.2021
	Features, suitability of shapes of sewer	1		Dt. 31.12.2021
	Laying of sewer-setting out sewer alignment	1		Dt. 03.01.2022
	UNIT - 9 : Sewer Appurtenances and Sewage Disposal	7		
	Manholes and Lamp holes – types, features, location, function	1		Dt. 04.01.2022
	Inlets, Grease & oil trap – features, location, function	1		Dt. 05.01.2022 & Dt. 06.01.2022
	Storm regulator, inverted siphon – features, location, function	1		Dt. 06.01.2022
9	Disposal on land – sewage farming, sewage application and dosing	1		Dt. 07.01.2022
	Sewage sickness-causes and remedies	1		Dt. 10.01.2022 & Dt. 11.01.2022
	Disposal by dilution – standards for disposal in different types of water bodies	1		Dt. 11.01.2022
	Self purification of stream	1		Dt. 12.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
10	UNIT -10 : Sewage Treatment	8		
	Introduction to sewage treatment	1		Dt. 13.01.2022
	Principles of treatment	1		Dt. 13.01.2022
	Flow diagram of conventional treatment	1		Dt. 17.01.2022
	Primary treatment & its necessity	1		Dt. 18.01.2022
	Principles, essential features of primary treatment	1		Dt. 19.01.2022 & Dt. 20.01.2022
	Functions of primary treatment	1		Dt. 21.01.2022
	Secondary treatment & its necessity and principles	1		Dt. 21.01.2022 & Dt. 24.01.2022
	Essential features & functions of secondary treatment	1		Dt. 25.01.2022
11	UNIT - 11 : Sanitary Plumbing for Building	3		
	Requirements of building drainage, layout of lavatory blocks in residential buildings, layout of building drainage	1		Dt. 25.01.2022 & Dt. 27.01.2022
	Plumbing arrangement of single storied & multi storied building as per I.S. code practice	1		Dt. 28.01.2022
	Sanitary fixtures – features, function, and maintenance and fixing of the fixtures – water closets, flushing cisterns, urinals, inspection chambers, traps, anti syphonage pipe	1		Dt. 29.01.2022 & Dt. 31.01.2022

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THEORY LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 5TH, SECTION : (C1 & C2)

**NAME OF THE FACULTY : (1) ER. SUNIL KUMAR SAHU
(2) ER. NANDINI PRADHAN (LECT. IN CIVIL ENGG.)**

SEMESTER FROM DT. 01.10.2021 TO 31.01.2022

THEORY SUBJECT : ESTIMATING & COST EVALUATION - II (TH-5)

CLASS ALLOTTED / WEEK: 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	UNIT-1: Detailed Estimate of Culverts and Bridges	12	OCTOBER - 2021	
	Introduction to culvert, types of culvert, parts of a culvert & difference between culvert & bridge, detailed study of plan and sectional elevation of RCC deck slab culvert with right angled wing wall	1		Dt - 01.10.2021 & Dt - 04.10.2021
	Calculation of E/W in excavation, cement concrete work in foundation & Brick work in cement mortar of RCC deck slab culvert. Bar bending schedule	1		Dt - 05.10.2021 & Dt. 07.10.2021
	Calculation of quantity of RCC work & reinforcement, Calculation of quantity of cement concrete wearing coat & cement pointing	1		Dt - 08.10.2021
	Detailed study of plan & sectional elevation of hume pipe culvert with right angled wing wall	1		Dt. 09.10.2021
	Calculation of quantity of E/W in excavation and cement concrete work in foundation of hume pipe culvert	1		Dt - 18.10.2021
	Calculation of quantity of brickwork in cement mortar of hume pipe culvert	1		Dt. 19.10.2021
	Calculation of quantity of cement pointing and length of hume pipe for hume pipe culvert	1		Dt. 20.10.2021
	Process of calculation to estimate earthwork, concrete work & masonry work of abutment of a splayed culvert	1		Dt. 21.10.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Process of calculation to estimate earthwork, concrete work for wing wall of a splayed culvert	1		Dt. 22.10.2021
	Process of calculation to estimate masonry work below & above G.L for wing wall of a splayed culvert, detailed study of plan & sectional elevation of a slab culvert with splayed wing wall	1		Dt. 23.10.2021 & Dt. 25.10.2021
	Calculation of quantity of E/W in excavation and cement concrete work in foundation of slab culvert with splayed wing wall	1		Dt. 25.10.2021 & Dt. 26.10.2021
	Calculation of quantity of E/W in excavation and cement concrete work in foundation of slab culvert with splayed wing wall	1	NOVEMBER 2021	Dt. 01.11.2021
	UNIT- 2 : Estimate of Irrigation Structures	14		
	Concept of fall, its types and necessity, Study of plan & sectional elevation of a vertical fall, Calculation of quantity of earthwork in excavation of vertical fall, Calculation of quantity of earth work in excavation & cement concrete work in foundation of vertical fall	1		Dt. 02.11.2021 & Dt. 03.11.2021
2	Calculation of quantity of earthwork in excavation of vertical fall, Calculation of quantity of earth work in excavation & cement concrete work in foundation of vertical fall	1		Dt. 05.11.2021
	Calculation of quantity of brickwork in 1:4 cement mortar of vertical fall, Calculation of quantity of brick on edge flooring & brick pitching	1		Dt. 06.11.2021 & Dt. 08.11.2021
	Calculation of quantity of cement pointing in 1:3 cement mortar, Study of plan & sectional elevation of a vertical fall	1		Dt. 08.11.2021 & Dt. 09.11.2021


Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Calculation of quantity of earthwork in excavation of vertical fall. Calculation of quantity of earthwork in excavation & cement concrete work in foundation of vertical fall.	1		Dt. 10.11.2021 & Dt. 11.11.2021
	Calculation of quantity of brickwork in 1:4 cement mortar of a vertical fall.	1		Dt. 11.11.2021
	Calculation of quantity of brick on edge flooring & brick pitching of a vertical fall, cement pointing in 1:3 cement mortar	1		Dt. 12.11.2021
	Concept of cross drainage work, its types and introduction to drainage syphon, Study of plan and sectional elevation of a drainage syphon	1		Dt. 13.11.2021
	Calculation of quantity of earthwork in excavation and cement concrete work in foundation of drainage syphon	1		Dt. 13.11.2021 & Dt. 17.11.2021
	Calculation of quantity of brickwork in 1:4 cement mortar of drainage syphon	1		Dt. 17.11.2021 & Dt. 18.11.2021
	Calculation of quantity of RCC work in slab, 10 cm thick brick flooring in 1:3 cement mortar & 10 cm dry brick pitching of drainage syphon	1		Dt. 20.11.2021
	Calculation of quantity of cement pointing in 1:2 cement mortar of drainage syphon, Calculation of quantity of brickwork in 1:4 cement mortar of drainage syphon	1		Dt. 24.11.2021
	Study of plan and sectional elevation of a drainage syphon, Calculation of quantity of earthwork in excavation and cement concrete work in foundation of drainage syphon	1		Dt. 25.11.2021
	Calculation of quantity of RCC work in slab, PCC work in coping & 10 cm dry brick pitching of drainage syphon	1		Dt. 26.11.2021


Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	UNIT- 3 : Detailed Estimate of Roads	12		
	Concept of lead and lift, derivation of formula for calculation of earthwork using different methods	1		Dt. 27.11.2021
	Problem discussion on calculation of earthwork using Mid-sectional Area method, Mean sectional Area Method and Prismoidal Formula	1	DECEMBER 2021	Dt. 01.12.2021
	Calculation of earthwork of a road in banking	1		Dt. 02.12.2021
	Calculation of earthwork of a road in banking	1		Dt. 03.12.2021
	Calculation of earthwork of a road in banking and cutting	1		Dt. 03.12.2021, Dt. 04.12.2021
	Calculation of earthwork of a road in banking and cutting	1		Dt. 08.12.2021
	Detailed estimate of a water bound macadam road	1		Dt. 09.12.2021
	Detailed estimate of a water bound macadam road	1		Dt. 09.12.2021 & Dt. 10.12.2021
	Detailed estimate of a national highway in cutting and banking	1		Dt. 11.12.2021
	Detailed estimate of a national highway in cutting and banking	1		Dt. 15.12.2021
	Revision	1		Dt. 16.12.2021
	Class test	1		Dt. 17.12.2021
4	UNIT- 4 : Miscellaneous Estimates	12		
	Tube well	1		Dt. 18.12.2021 & Dt. 22.12.2021
	Tube well problems	1		Dt. 23.12.2021
	Tube well problems	1		Dt. 23.12.2021 & Dt. 24.12.2021
	Piles and Pile cap	1		Dt. 25.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Piles and Pile cap problems	1		Dt. 29.12.2021
	Piles and Pile cap problems	1		Dt. 30.12.2021
	Isolated footings	1		Dt. 31.12.2021
	Isolated footings problems	1	JANUARY 2022	Dt. 05.01.2022
	Isolated footings problems	1		Dt. 06.01.2022
	Combined footings.	1		Dt. 07.01.2022
	combined footings problems	1		Dt. 08.01.2022
	Combined footings problems	1		Dt. 12.01.2022
	UNIT-5 : PWD Accounts works	10		
	Classification of work & method of execution of work through the contractors, departmentally, contract and agreement,	1		Dt. 12.01.2022 & Dt. 13.01.2022
	Work order, item rate contract, lump sum contract, labour contract, piece work agreement, scheduled contract, cost plus percentage contract	1		Dt. 15.01.2022
5	Explanation of various item – administrative approval, technical sanction, contingency budget, tender, preparation of notice inviting tender, receiving of quotations, earnest money, security deposit,	1		Dt. 15.01.2022 & Dt. 19.01.2022
	Advance payment, on account payment, intermediate payment, final payment, running bill, final, regular and temporary establishment, cash, major and sub head of account,	1		Dt. 20.01.2022
	Temporary advance, issue rate, storage, supervision charges, suspense account, debit, credit, book transfer, voucher	1		Dt. 21.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Measurement book use & maintenance, procedure of making entries of measurement of work and supply of material, labour employed, standard measurement book and common irregularity	1		Dt. 21.01.2022 & Dt. 22.01.2022
	Muster roll & Aquittance roll : its preparation & use for making payment of pay and wages	1		Dt. 22.01.2022
	Labour and labour report, method of labour payment, use of forms and necessity of submission	1		Dt. 27.01.2022
	Classification of stores, receipt/issue statement on standard form, method of preparation of stock account, preparation and submission of returns, verification of stock, shortage and excess	1		Dt. 28.01.2022
	Revision	1		Dt. 28.01.2022 & Dt. 29.01.2022


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LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 6TH, SECTION :- (C1 & C2)

**NAME OF THE FACULTY : (1) ER. SUNIL KUMAR SAHU,
(2) ER. PRITAM SAGAR SAHOO (LECT. IN CIVIL ENGG.)**

SEMESTER FROM DT. 14.03.2022 TO 30.06.2022

SUBJECT: - LAND SURVEY - II (TH-1)

CLASS ALLOTTED / WEEK: 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	TACHEOMETRY:	9	MARCH	
	Principles, stadia constants determination	1		Dt - 14 / 03 / 2022
	Numerical problems	1		Dt - 14 / 03 / 2022
	Stadia tacheometry with staff held vertical with line of collimation horizontal .	1		Dt - 15 / 03 / 2022
	Stadia tacheometry with staff held vertical with line of collimation inclined	1		Dt - 16 / 03 / 2022
	Numerical problems on tacheometry	1		Dt - 17 / 03 / 2022
	Elevations and distances of staff stations – numerical problems	1		Dt - 21 / 03 / 2022
	Numerical problems on tacheometry	1		Dt - 21 / 03 / 2022
	Numerical problems on tacheometry	1		Dt - 22 / 03 / 2022
	Numerical problems on tacheometry	1		Dt - 23 / 03 / 2022
2	CURVES :	8		
	Purpose & use of different types of curves in field	1		Dt - 24 / 03 / 2022
	Elements of circular curves, numerical problems	1		Dt - 24 / 03 / 2022
	Setting out of circular curve by chain and tape	1		Dt - 25 / 03 / 2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Setting out of circular curve by instrument angular methods	1		Dt - 28/03/2022
	Preparation of curve table for setting out of curve	1		Dt - 29/03/2022
	Setting out of circular curve offsets from chord produced, offsets from tangents	1		Dt - 30/03/2022
	Setting out of circular curve offsets from long chord, Rankine's method of tangent angles	1		Dt - 31/03/2022
	Obstacles in curve ranging – point of intersection inaccessible	1		Dt - 31/03/2022
	BASICS ON SCALE AND BASICS OF MAP:	8	APRIL	
	Fractional or Ratio Scale, Linear Scale, Graphical Scale	1		Dt - 04/04/2022
	What is Map, Map Scale and Map Projections	1		Dt - 05/04/2022
	How Maps Convey Location and Extent	1		Dt - 06/04/2022
3	How Maps Convey Spatial Relationship, Classification of Maps	1		Dt - 06/04/2022
	Climate Map, Thematic Map	1		Dt - 07/04/2022
	Topographic Map, Road Map	1		Dt - 07/04/2022
	Political Map	1		Dt - 08/04/2022
	Thematic Map	1		Dt - 08/04/2022
	SURVEY OF INDIA MAP SERIES:	10		
4	Open Series map	1		Dt - 11/04/2022
	Defense Series Map	1		Dt - 12/04/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Map Nomenclature	1		Dt - 13/04/2022
	Quadrangle Name	1		Dt - 18/04/2022
	Latitude, Longitude,	1		Dt - 19/04/2022
	Contour Lines	1		Dt - 20/04/2022
	Magnetic Declination	1		Dt - 21/04/2022
	Public Land Survey System	1		Dt - 23/04/2022
	Field Notes	1		Dt - 22/04/2022
	UTM's	1		Dt - 25/04/2022
5	BASICS OF AERIAL PHOTOGRAPHY, PHOTOGRAMMETRY, DEM AND ORTHO IMAGE GENERATION :	10		
	Aerial Photography:	1		Dt - 26/04/2022
	Film, Focal Length, Scale	1		Dt - 27/04/2022
	Types of Aerial Photographs (Oblique, Straight)	1		Dt - 27/04/2022
	Photogrammetry Classification of Photogrammetry	1	MAY	Dt - 04/05/2022
	Aerial Photogrammetry, Terrestrial Photogrammetry	1		Dt - 05/05/2022
	Photogrammetry Process: Acquisition of Imagery using aerial and satellite platform	1		Dt - 06/05/2022
	Control Survey Geometric Distortion in Imagery	1		Dt - 06/05/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Application of Imagery and its support data Orientation and Triangulation Stereoscopic Measurement	1		Dt - 09/05/2022
	DTM/DEM Generation	1		Dt - 10/05/2022
	Ortho Image Generation	1		Dt - 11/05/2022
6	MODERN SURVEYING METHODS :	10		
	Principles, features and use of (i) Micro-optic theodolite	1		Dt - 12/05/2022
	Set up and use of total station to measure angles	1		Dt - 17/05/2022
	The co-ordinates (X,Y & Z or northing, easting, and elevation) of surveyed points relative to Total Station position using trigonometry	1		Dt - 18/05/2022
	The co-ordinates (X,Y & Z or northing, easting, and elevation) of surveyed points relative to Total Station position using trigonometry by triangulation.	1		Dt - 19/05/2022
	Measurement of horizontal angle	1		Dt - 23/05/2022
	Measurement of vertical angle	1		Dt - 24/05/2022
	Measurement of horizontal distance	1		Dt - 24/05/2022
	Measurement of vertical distance	1		Dt - 25/05/2022
	Marking of co-ordinates of plan of a building	1		Dt - 26/05/2022
	Marking of BM	1		Dt - 31/05/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
7	BASICS ON GPS & DGPS AND ETS:	10	JUNE	Dt - 01/06/2022
	GPS: - Global Positioning	1		Dt - 01/06/2022
	Working Principle of GPS, GPS Signals,	1		Dt - 02/06/2022
	Errors of GPS, Positioning Methods	1		Dt - 06/06/2022
	Base Station Setup, Rover GPS Set up	1		Dt - 07/06/2022
	Download, Post-Process and Export GPS data	1		Dt - 08/06/2022
	Sequence to download GPS data from flashcards	1		Dt - 09/06/2022
	Sequence to Post-Process GPS data, Sequence to export post process GPS data	1		Dt - 13/06/2022
	Sequence to export GPS Time tags to file, ETS: -. Electronic Total Station	1		Dt - 16/06/2022
	Distance Measurement, Angle Measurement	1		Dt - 20/06/2022
8	Leveling, Determining position	1		Dt - 21/06/2022
	Reference networks, Errors and Accuracy	1		
	BASICS OF GIS AND MAP PREPARATION USING GIS	10		
	Components of GIS, Integration of Spatial and Attribute Information	1		Dt - 22/06/2022
	Three Views of Information System	1		Dt - 23/06/2022
	Database or Table View, Map View and Model View	1		Dt - 23/06/2022
	Spatial Data Model Attribute Data Management and Metadata Concept	1		Dt - 27/06/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Prepare data and adding to Arc Map. Organizing data as layers.	1		DT - 28/06/2022
	Editing the layers. Switching to Layout View.	1		DT - 28/06/2022
	Change page orientation	1		DT - 29/06/2022
	Removing Borders.	1		DT - 29/06/2022
	Adding and editing map information.	1		DT - 30/06/2022
	Finalize the map	1		DT - 30/06/2022

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LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 6TH, SECTION :- (C1 & C2)

**NAME OF THE FACULTY : (1) ER. SUJATA DALEI
(2) ER. BABITA SAHU (LECT. IN CIVIL ENGG.)**

SEMESTER FROM DT. 14.03.2022 TO 30.06.2022

SUBJECT: - CONSTRUCTION MANAGEMENT (TH-2)

CLASS ALLOTTED / WEEK: 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT-1 : Introduction To Construction Management	4	MARCH	
	Aims and objectives of construction management	1		Dt - 14.03.2022
	Functions of construction management	1		Dt - 15.03.2022
	The construction team components- owner, engineer, architect, contractor-their functions and interrelationship and jurisdiction	1		Dt - 16.03.2022
	Resources for construction management- men, machines, materials, money	1		Dt - 17.03.2022
2	UNIT-2 : Constructional Planning	7		
	Importance of Construction Planning	1		Dt - 21.03.2022
	Developing work breakdown structure for construction work	1		Dt - 22.03.2022
	Construction Planning stages-Pre-tender stage, Post-tender stage.	1		Dt - 23.03.2022
	Construction scheduling by Bar charts-preparation of Bar Charts for simple construction works	1		Dt - 24.03.2022
	Preparation of schedules for labour materials, machinery, finance for small works	1		Dt - 25.03.2022
	Limitation of Bar charts	1		Dt - 28.03.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Construction scheduling by network techniques- definition of terms ,PERT and CPM techniques, Advantages and disadvantages of two techniques, network analysis, estimation of time and critical path, application of PERT and CPM techniques in sample construction works	1		Dt - 29.03.2022
3	UNIT-3 : Materials and Stores Management	4		
	Classification of Stores-storage of stock	1		Dt - 30.03.2022
	Classification of Stores-storage of stock	1		Dt - 31.03.2022
	Issue of materials-indent , invoice, bin card	1	APRIL	Dt - 04.04.2022
	Issue of materials-indent , invoice, bin card	1		Dt - 05.04.2022
4	UNIT-4 : Construction Site Management	5		
	Job Lay out-Objectives, Review plans, specifications, Lay out of equipments	1		Dt - 06.04.2022
	Location of equipment, organizing labour at site	1		Dt - 07.04.2022
	Job lay out for different construction sites	1		Dt - 08.04.2022
	Principle of storing material at site	1		Dt - 11.04.2022
	Revision	1		Dt - 12.04.2022
5	UNIT-5 : Construction Organization:	6		
	Introduction – Characteristics, Structure, importance	1		Dt - 13.04.2022
	Organization types-line and staff, functions and their characteristics	1		Dt - 18.04.2022
	Principles of organization- meaning and significance of terms- control, authority, responsibility, job & task	1		Dt - 19.04.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Leadership-necessity, styles of leadership, role of leader, Human relations-relations with subordinates, peers, Supervisors	1		Dt - 20.04.2022
	characteristics of group behavior, mob psychology, handling of grievances, absenteeism, labour welfare	1		Dt - 21.04.2022
	Conflicts in organization-genesis of conflicts, types-intrapersonal, interpersonal, intergroup, resolving conflicts.	1		Dt - 22.04.2022
	UNIT-6 : Construction Labour and Labour Management:	6		
	Preparing Labour schedule	1		Dt - 25.04.2022
	Essential steps for optimum labour output	1		Dt - 26.04.2022
6	Labour characteristics	1		Dt - 27.04.2022
	Wages & their payment	1	MAY	Dt - 04.05.2022
	Labour incentives	1		Dt - 05.05.2022
	Motivation- Classification of motives, different approaches to motivation	1		Dt - 06.05.2022
	UNIT-7 : Equipment Management	6		
	Preparing the equipment schedule	1		Dt - 09.05.2022
	Identification of different alternative equipment	1		Dt - 10.05.2022
7	Importance of Owning costs in making decisions for hiring & purchase of equipment	1		Dt - 11.05.2022
	operating costs in making decisions for hiring & purchase of equipment	1		Dt - 12.05.2022
	Inspection and testing of equipment	1		Dt - 17.05.2022
	Equipment maintenance	1		Dt - 18.05.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
8	UNIT-8 : Quality Control	5		
	Concept of quality in construction	1		Dt - 19.05.2022
	Quality Standards- during construction	1		Dt - 23.05.2022
	Quality Standards-after construction	1		Dt - 24.05.2022
	destructive & non destructive methods	1		Dt - 25.05.2022
	Revision and class test	1		Dt - 26.05.2022
9	UNIT-9 : Monitoring Progress	6		
	Programme of work	1		Dt - 31.05.2022
	progress of work	1	JUNE	Dt - 01.06.2022
	Work study	1		Dt - 02.06.2022
	Analysis of physical and financial progress corrective measures	1		Dt - 06.06.2022
	control of physical and financial progress corrective measures	1		Dt - 07.06.2022
	Revision and class test	1		Dt - 08.06.2022
10	UNIT-10 : Safety Management In Construction	5		
	Importance of safety	1		Dt - 09.06.2022
	causes and effects of accidents in construction works	1		Dt - 13.06.2022
	Safety measures in worksites for excavation, scaffolding, formwork	1		Dt - 16.06.2022
	fabrication and erection, demolition. Development of safety consciousness	1		Dt - 20.06.2022
	Safety legislation- Workman's compensation act, contract labour act	1		Dt - 21.06.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
11	UNIT-11 : Role of Vulnerability Atlas of India in construction projects	6		
	Introduction to Vulnerability Atlas of India, Concepts of natural hazards and disasters and vulnerability profile of India. Definition of disaster related terms.	1		Dt - 22.06.2022
	Earthquake hazard and vulnerability, Magnitude and intensity scales of earthquake, seismic zones, earthquake hazard maps, types of structures and damage classification, effects in housing and resistant measures.	1		Dt - 23.06.2022
	Wind / Cyclone hazard and vulnerability, wind speed and pressures, wind hazard and cyclone occurrence maps, storm surveys and cyclone resistant measures.	1		Dt - 27.06.2022
	Flood hazard and vulnerability, Flood hazard and Flood prone areas of the country, General protection of habitants and flood resistant construction.	1		Dt - 28.06.2022
	Landslides, Tsunamis and Thunderstorm hazards and vulnerability, Landslide & Thunderstorm incidence maps, Measures against Tsunami hazards.	1		Dt - 29.06.2022
	Housing vulnerability risk tables and usage of vulnerability atlas of India, Inclusion of vulnerability atlas in Tender documents.	1		Dt - 30.06.2022

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LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 6TH, SECTION :- (C1 & C2)

**NAME OF THE FACULTY : (1) ER. SWARNAPRAVA PARIDA
(2) ER. SUMANTA SAHOO (LECT. IN CIVIL ENGG.)**

SEMESTER FROM DT. 14.03.2022 TO 30.06.2022

SUBJECT: - ADVANCED CONSTRUCTION TECHNIQUES & EQUIPMENT (TH-3)

CLASS ALLOTTED / WEEK: 4 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT-1 : Advanced Construction Materials	10		
	Fibers and Plastics- Types of fibers- Steel, Carbon, glass fibers	1	MARCH	Dt -14.03.2022
	Use of fibers as construction material, properties of Fibers	1		Dt - 15.03.2022
	Types of plastics- PVC, RPVC, HDPE, FRP, GRP	1		Dt - 16.03.2022
	Colored plastic sheets. Use of plastic as construction material	1		Dt - 17.03.2022
	Artificial Timbers – Properties	1		Dt - 21.03.22
	Uses of artificial timber	1		Dt - 22.03.2022
	Types of artificial timber available in market, strength of artificial timber	1		Dt - 23.03.2022
	Miscellaneous materials – Properties and uses of acoustics materials	1		Dt - 24.03.2022
	Wall claddings, plaster boards, micro-silica, artificial sand	1		Dt - 25.03.2022
	Bonding agents, adhesives	1		Dt - 28.03.2022
2	UNIT-2 : Prefabrication	8		
	Introduction, necessity and scope of prefabrication of buildings	1		Dt - 29.03.2022
	History of prefabrication, current uses of prefabrication, types of prefabricated systems	1		Dt - 30.03.2022
	Classification of prefabrication, advantages and disadvantages of prefabrication	1	APRIL	Dt - 31.03.2022, Dt. 04.04.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	The theory and process of prefabrication	1		Dt- 05.04.2022
	Design principle of prefabricated systems	1		Dt- 06.04.2022
	Types of prefabricated elements	1		Dt- 07.04.2022
	Modular coordination Indian standard recommendation for modular planning	1		Dt- 08.04.2022 & Dt-11.04.2022
	Revision	1		Dt- 12.04.2022
	UNIT-3 : Earthquake Resistant Construction	8		
	Building Configuration	1		Dt- 13.04.2022
	Lateral Load resisting structures	1		Dt- 16.04.2022
	Building characteristics	1		Dt- 18.04.2022
3	Effect of structural irregularities-vertical irregularities	1		Dt- 19.04.2022
	Pian configuration problems	1		Dt- 20.04.2022
	Safety consideration during additional construction and alteration of existing Buildings.	1		Dt- 21.04.2022
	Additional strengthening measures in masonry building-corner reinforcement	1		Dt- 22.04.2022
	lintel band, sill band, plinth band, roof band, gable band	1		Dt- 23.04.2022
	UNIT-4 : Retrofitting of Structures	8		
	Seismic retrofitting of reinforced concrete buildings	1		Dt- 25.04.2022
4	Seismic retrofitting of reinforced concrete buildings	1		Dt- 26.04.2022
	Sources of weakness in RC frame building	1		Dt- 27.04.2022
	Sources of weakness in RC frame building	1	MAY	Dt- 04.05.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Classification of retrofitting techniques and their uses	1		Dt- 05.05.2022
	Classification of retrofitting techniques and their uses	1		Dt- 06.05.2022
	Revision	1		Dt- 09.05.2022
	Class test	1		Dt- 10.05.2022
5	UNIT-5 : Building Services	8		D
	Cold Water Distribution in high rise building, lay out of installation	1		Dt - 11.05.2022
	Hot water supply – General principles for central plants-layout	1		Dt- 12.05.2022
	Sanitation –soil and waste water installation in high rise buildings	1		Dt - 13.05.2022
	Electrical services – i) requirements in high rise buildings ii) Layout of wiring - types of wiring their uses	1		Dt - 16.05.2022 & Dt- 17.05.2022
	Fuses and their types ,Earthing and their uses	1		Dt - 18.05.2022
	Lighting – Requirement of lighting, Measurement of light intensity	1		Dt - 19.05.2022
	Ventilation - Methods of ventilation (Natural and artificial Systems of ventilation) problems on ventilation	1		Dt - 23.05.2022
	Mechanical Services- Lifts, Escalator, Elevators – types and uses.	1		Dt - 24.05.2022
6	UNIT-6 : Construction and Earth Moving Equipments	10		
	Planning construction equipments	1		Dt - 25.05.2022
	selection of construction equipments	1		Dt - 26.05.2022
	Study on earth moving equipments like drag line, tractor	1		Dt - 31.05.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Bulldozer, Power shovel	1	JUNE	Dt- 01.06.2022
	Study and uses of compacting equipments like tamping rollers,	1		Dt- 02.06.2022
	Smooth wheel rollers, Pneumatic tired rollers and vibrating compactors	1		Dt- 06.06.2022
	Owning and operating cost	1		Dt- 07.06.2022
	Problems based on owning cost	1		Dt- 08.06.2022
	Problems based on owning cost	1		Dt- 09.06.2022
	Revision	1		Dt- 13.06.2022
	UNIT-7 : Soil reinforcing techniques	8		
	Necessity of soil reinforcing.	1		Dt- 16.06.2022
	Use wire mesh	1		Dt- 20.06.2022
	geo-synthetics	1		Dt- 21.06.2022 & Dt.-22.06.2022
	Strengthening of embankments	1		Dt- 23.06.2022
7	Slope stabilization in cutting	1		Dt- 27.06.2022
	Slope stabilization embankments by soil reinforcing techniques.	1		Dt- 28.06.2022
	Revision	1		Dt- 29.06.2022
	Class test	1		Dt- 30.06.2022

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LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : CIVIL ENGG. SEMESTER : 6TH, SECTION :- (C1 & C2)

**NAME OF THE FACULTY : (1) ER. SIBANI SAHU
(2) ER. NANDINI PRADHAN (LECT. IN CIVIL ENGG.)**

SEMESTER FROM DT. 14.03.2022 TO 30.06.2022

SUBJECT: - CONCRETE TECHNOLOGY (TH-4A)

CLASS ALLOTTED / WEEK: 4

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT-1 : Concrete as a Construction Material :	2	MARCH	
	Grades of concrete	1		Dt - 14.03.2022
	Advantages and disadvantages of concrete	1		Dt - 15.03.2022
2	UNIT-2 : Cement :	4		
	Composition, hydration of cement	1		Dt - 16.03.2022
	Water cement ratio and compressive strength	1		Dt - 17.03.2022
	Fineness of cement, setting time	1		Dt - 21.03.2022
	Soundness, types of cement	1		Dt - 22.03.2022
3	UNIT-3 : Aggregate, Water and Admixtures:	6		
	Classification and characteristics of aggregate	1		Dt - 23.03.2022
	Fineness modulus, grading of aggregate, I.S.383	1		Dt - 24.03.2022
	Quality of water for mixing and curing	1		Dt - 25.03.2022
	Important functions, classification of admixtures	1		Dt - 28.03.2022
	I.S 9103, accelerating admixtures, retarding admixtures, water reducing admixtures, air containing admixtures	1		Dt - 29.03.2022
	Revision	1		Dt - 30.03.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
4	UNIT-4 : Properties of Fresh Concrete:	6		
	Concept of fresh concrete, workability	1		Dt - 31.03.2022
	Slump test	1	APRIL	Dt - 04.04.2022
	Compacting factor test	1		Dt - 05.04.2022
	V-bee consistency test	1		Dt - 06.04.2022
	Flow test, requirement of workability, I.S. 1199.	1		Dt - 07.04.2022
	Class test	1		Dt - 08.04.2022
5	UNIT-5 : Properties of Hardened Concrete:	7		
	Cube and cylinder compressive strengths	1		Dt - 11.04.2022
	Flexural strength of concrete	1		Dt - 12.04.2022
	Stress-strain and elasticity	1		Dt - 13.04.2022
	Phenomena of creep and shrinkage, permeability.	1		Dt - 18.04.2022
	Durability of concrete, sulphate, chloride on concrete	1		Dt - 19.04.2022
	Acid attack on concrete, efflorescence	1		Dt - 20.04.2022
	Revision	1		Dt - 21.04.2022
6	UNIT-6 : Concrete Mix Design :	5		
	Introduction, Data or input required for mix design	1		Dt - 22.04.2022
	Nominal mix concrete, design mix concrete	1		Dt - 25.04.2022
	Design mix concrete	1		Dt - 26.04.2022
	Basic consideration for concrete mix design	1		Dt - 27.04.2022
	Methods of proportioning concrete mix - I.S. Code method of mix design (I.S. 10262)	1	MAY	Dt - 04.05.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
7	UNIT-7 : Production of Concrete:	6		
	Batching of materials, mixing of concrete materials	1		Dt - 05.05.2022
	Transportation, placing of concrete	1		Dt - 06.05.2022
	Compaction of concrete (vibrators)	1		Dt - 09.05.2022
	Curing of concrete, Formwork	1		Dt - 10.05.2022
	Requirements and types ,stripping of forms	1		Dt - 11.05.2022
	Class test	1		Dt - 12.05.2022
8	UNIT-8 : Inspection and Quality Control of Concrete :	6		
	Quality control of Concrete as per I.S.456	1		Dt - 17.05.2022
	Factors causing the variations in the quality of concrete	1		Dt - 18.05.2022
	Mixing, Transporting, Placing &curing requirements of Concrete as per I.S.456.	1		Dt - 19.05.2022
	Inspection and Testing as per Clause 17 of IS:456.	1		Dt - 23.05.2022
	Durability requirements of Concrete as per I.S:456.	1		Dt - 24.05.2022
	Revision	1		Dt - 25.05.2022
9	UNIT-9 :Special Concrete :	6		
	Introduction to ready mix concrete	1		Dt - 26.05.2022
	High performance concrete	1		Dt - 31.05.2022
	Silica fume concrete	1	JUNE	Dt - 01.06.2022
	Shot-crete concrete or gunitting	1		Dt - 02.06.2022
	Revision	1		Dt - 06.06.2022
	Question discussion	1		Dt - 07.06.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
10	UNIT-10 : Deterioration of Concrete and its Prevention :	6		
	Types of deterioration	1		Dt - 08.06.2022
	Prevention of concrete deterioration	1		Dt - 09.06.2022
	Corrosion of reinforcement	1		Dt - 13.06.2022
	Effects and prevention	1		Dt - 16.06.2022
	Revision	1		Dt - 20.06.2022
	Question discussion	1		Dt - 21.06.2022
11	UNIT-11 : Repair Technology for Concrete Structures :	6		
	Symptom, cause during construction	1		Dt - 22.06.2022
	Prevention , remedy of defects during construction	1		Dt - 23.06.2022
	Cracking of concrete due to different reasons	1		Dt - 27.06.2022
	Repair of cracks for different purposes	1		Dt - 28.06.2022
	Selection of techniques; polymer based repairs, common types of repairs	1		Dt - 29.06.2022
	Class test	1		Dt - 30.06.2022

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