P.C.I.E.T., CHHENDIPADA, DIST- ANGUL				
THEORY LESSON PLAN FOR THE SESSION 2023 - 24				
BRANCH : CIVIL ENGG. SEMESTER : 4TH, SECTION :- (C1 & C2)			NAME OF THE FACULTY : (1) ER. BABITA SAHU (H.O.D., CIVIL ENGG.) (2) ER. SIDHANTA SEKHAR MAHAR (LECT. IN CIVIL ENGG.)	
SEMESTER FROM DT. 16.01.2024 TO 26.04.2024			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
1	**UNIT-1 : Working stress method (WSM)**	**5**		
	Objectives of design and detailing & different methods of design of concrete structure.	1	JAN	Dt. 16.01.2024
	Introduction to reinforced concrete, grades of concrete and steel, advantages of reinforced cement concrete, concept of under reinforced, balanced & over reinforced section	1		Dt. 17.01.2024
	Assumptions in working stress method, derivation of formula for balanced design	1		Dt. 18.01.2024
	Problem discussion on finding out the design constants and analysis of the section using WSM	1		Dt. 18.01.2024
	Problem discussion on design of the section using WSM	1		Dt. 19.01.2024
2	**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. 22.01.2024
	characteristic load, partial safety factor, design load, loading on structure, I.S specification regarding spacing of reinforcement in slab	1		Dt. 24.01.2024
	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. 25.01.2024
3	**UNIT - 3 : Analysis and Design of Single and Double Reinforced Sections (LSM)**	**15**		
	Assumptions, idealised stress - strain curve for steel and concrete	1		Dt. 29.01.2024

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. 29.01.2024
	Finding out M.R, limiting M.R, percentage of steel and limiting percentage of steel	1		Dt. 30.01.2024
	Problem discussion on finding out the type of the beam	1		Dt. 31.01.2024
	Problem discussion on analysis of singly reinforced section	1		Dt. 31.01.2024
	Problem discussion on analysis of singly reinforced section	1	FEB	
	CLASS TEST - I	1		Dt. 01.02.2024
	Problem discussion on design of singly reinforced beam	1		Dt. 02.02.2024
	Problem discussion on design of singly reinforced beam	1		Dt. 05.02.2024
	Necessity of providing doubly reinforced beam, stress & strain diagram, finding out depth of N.A and moment of resistance	1		Dt. 06.02.2024
	Finding out the area of tensile & compression reinforcement, problem discussion on analysis of doubly reinforced beam	1		Dt. 07.02.2024
	Problem discussion on analysis of doubly reinforced beam	1		Dt. 07.02.2024
	Problem discussion on analysis of doubly reinforced beam	1		Dt. 08.02.2024
	Problem discussion on design of doubly reinforced beam	1		Dt. 09.02.2024
	REVISION	1		Dt. 12.02.2024
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. 13.02.2024
	Problem discussion on design of shear reinforcement in beam	1		Dt. 15.02.2024

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. 16.02. 2024
	Problem discussion on checking of development length criteria in beams.	1		Dt. 19.02.2024
5	**UNIT - 5 : Analysis and design of T – Beam (LSM)**	**15**		
	General features, advantages, effective width of flange	1		Dt. 20.02.2024
	Finding out position of neutral axis, Analysis of singly reinforced T – beam, stress-strain diagram	1		Dt. 20.02.2024
	Problem discussion on finding moment of resistance of a T- beam section with N.A lies within the flange.	1		Dt. 21.02.2024
	CLASS TEST - II	1		Dt. 22.02.2024
	Analysis of a T – beam section	1		Dt. 23.02.2024
	Design of a T – beam section	1		Dt. 26.02.2024
	Derivation of formula for T – beam section when the N.A lies in the web	1		Dt. 27.02.2024
	Problem discussion on design of simply supported beam along with provision of check for flexure	1		Dt. 28.02.2024
	Design of simply supported beam along with check for shear and development length.	1		Dt. 28.02.2024
	Design of simply supported beam along with check for deflection and detailing of the beam	1		Dt. 29.02.2024
	Problem discussion on analysis of the T – Beam section	1		Dt. 29.02.2024
	Problem discussion on design of the T – Beam section	1	MAR	Dt. 01.03.2024
	Problem discussion on design of the T – Beam section	1		Dt. 01.03.2024
	Revision	1		Dt. 04.03.2024
	CLASS TEST - III	1		Dt. 06.03.2024

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. 07.03. 2024
	Design of simply supported one way slab with design of flexure	1		Dt. 11. 03. 2024
	Design of slab with check for shear and development length.	1		Dt. 11. 03. 2024
	Design of slab with check for deflection and detailing of the slab.	1		Dt. 12.03. 2024
	Design of cantilever slab with check for flexure, check for shear, development length, deflection and detailing of the slab	1		Dt. 13. 03. 2024
	Design of two way simply supported slab- moment and shear force calculation	1		Dt. 14. 03. 2024
	Design of two way slab with corners free to lift – design of flexure	1		Dt. 14. 03. 2024
	Design of two way slab with provision of check for shear and development length	1		Dt. 15. 03. 2024
	Design of two way slab with check for deflection and detailing of the slab	1		Dt. 18. 03. 2024
	Types of staircase, structural classification of staircase, Loads and their effect on stair slab	1		Dt. 18. 03. 2024
	Design of stair slab spanning longitudinally – design of main bar, distribution bar and detailing of the staircase	1		Dt. 19. 03. 2024
	Design of a waist slab type dog legged stair case – load and moment calculation	1		Dt. 20. 03. 2024
	Design of a waist slab type dog legged stair case – design of main bar, distribution bar and detailing of the slab	1		Dt. 21. 03. 2024
	Problems discussion of slabs	1		Dt. 22. 03. 2024
	Problems discussion of stair case.	1		Dt. 27. 03. 2024

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. 27.03.2024
	Effective length of column, specification for longitudinal & transverse reinforcement.	1		Dt. 28.03.2024
	Minimum eccentricity and ultimate load carrying capacity of column	1		Dt. 28.03.2024
	Design of a short axially loaded square column and detailing	1	APRIL	Dt. 02.04.2024
	Design of a short axially loaded square column and detailing problems	1		Dt. 03.04.2024
	Design of a short axially loaded rectangular column and detailing	1		Dt. 04.04.2024
	Design of a short axially loaded rectangular column and detailing problems	1		Dt. 05.04.2024
	Design of a short axially loaded circular column and detailing	1		Dt. 08.04.2024
	Design of a short axially loaded circular column and detailing problems	1		Dt. 09.04.2024
	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. 10.04.2024
	Analysis of foundation – critical section for bending moment and shear force, transfer of load at base of column	1		Dt. 12.04.2024
	Design of isolated square footing for column – design of flexure	1		Dt. 15.04.2024
	Design of isolated square footing for column – shear one way action and two way action	1		Dt. 16.04.2024
	Design of isolated square footing for column – development length , load transfer from column to footing & detailing	1		Dt. 18.04.2024
	Design of isolated square footing for column – design of flexure	1		Dt. 19.04.2024

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. 22.04.2024 , Dt. 23.04.2024
	Problems on isolated square footing	1		Dt. 24.04.2024 , Dt. 25.04.2024
	Revision	1		Dt. 26.04.2024

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P.C.I.E.T., CHHENDIPADA, DIST- ANGUL				
LESSON PLAN FOR THE SESSION 2023 - 24				
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 : 16.01.2024 to 26.04.2024			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
1	**UNIT-1 : HYDROSTATICS**	**12**		
	Introduction to fluid, Properties of fluid	1	JAN	Dt. 16.01.2024
	Discussion on properties of fluid i.e. Surface tension, capillarity, viscosity	1		Dt. 17.01.2024
	Discussion on properties of fluid Density, specific gravity of fluids.	1		Dt. 17.01.2024
	Uses of fluid.	1		Dt. 18.01.2024
	Discussion on water Pressure and its measurements	1		Dt. 19.01.2024
	Intensity of pressure, atmospheric Pressure, gauge pressure	1		Dt. 19.01.2024
	Discussion on Absolute pressure and vacuum pressure;	1		Dt. 22.01.2024
	Relationship between atmospheric pressure, absolute pressure and gauge pressure;	1		Dt. 24.01.2024
	What is pressure head & pressure gauges?	1		Dt. 25.01.2024
	Pressure exerted on an immersed surface: Total pressure, resultant pressure,	1		Dt. 29.01.2024
	Expression for total pressure exerted on horizontal & vertical surface.	1		Dt. 29.01.2024
	Problem based on total pressure,gauge pressure, resultant pressure, absolute pressure, pressure head and pressure gauges	1		Dt. 30.01.2024

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
2	**UNIT-2 : KINEMATICS OF FLUID FLOW**	**18**		
	Equation of continuity of liquid flow,	1		Dt. 31.01.2024
	Total energy of a liquid in motion i.e. potential, kinetic & pressure,	1	FEB	Dt. 01.02.2024
	Bernoulli's theorem and its limitations. Practical applications of Bernoulli's equation.	1		Dt. 02.02.2024
	Flow over Notches and Weirs	1		Dt. 02.02.2024
	Discussion on Notches, Weirs, types of notches and weirs	1		Dt. 05.02.2024
	Discharge through different types of notches	1		Dt. 06.02.2024
	Discharge through different types of weirs	1		Dt. 06.02.2024
	Problems regarding discharge through notches & weirs.	1		Dt. 07.02.2024
	Applications of discharge through notches & weirs	1		Dt. 08.02.2024
	Types of flow through the pipes: uniform and non uniform; laminar and turbulent; steady and unsteady flow	1		Dt. 09.02.2024
	Reynold's number and its application	1		Dt. 12.02.2024
	Losses of head of a liquid flowing through pipes	1		Dt. 12.02.2024
	Problems regarding lossess of head of a liquid through pipes.	1		Dt. 13.02.2024
	Different types of major and minor losses.	1		Dt. 15.02.2024
	Simple numerical problems on losses due to friction using Darcy's equation	1		Dt. 15.02.2024
	Total energy lines & hydraulic gradient lines.	1		Dt. 16.02.2024
	Flow through the Open Channels: Types of channel sections-rectangular, trapezoidal and circular, discharge formulae.	1		Dt. 19.02.2024
	Chezy's and Manning's equation, Best economical section.	1		Dt. 20.02.2024

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		Dt. 21.02.2024
	Introduction to centrifugal pump, Basic principles, operation	1		Dt. 22.02.2024
	Discharge of centrifugal pump. Horse power & efficiency of centrifugal pump.	1		Dt. 23.02.2024
	Introduction to Reciprocating pumps & its types	1		Dt. 26.02.2024
	Operation, discharge, horse power & efficiency of Reciprocating pumps	1		Dt. 27.02.2024
4	**UNIT - 4 : Hydrology**	**4**		
	Introduction to Hydrology. Hydrology Cycle	1		Dt. 28.02.2024
	Rainfall : types, intensity, hyetograph	1		Dt. 28.02.2024
	Estimation of rainfall, rain gauges, Its types	1		Dt. 29.02.2024
	Concept of catchment area, types, run-off, estimation of flood discharge by Dicken's and Ryve's formulae	1	MAR	Dt. 01.03.2024
5	**UNIT - 5 : Water Requirement of Crops**	**4**		
	Definition of irrigation, necessity, benefits of irrigation, types of irrigation.	1		Dt. 04.03.2024
	Different types of Crop season	1		Dt. 06.03.2024
	Duty, Delta and base period their relationship, overlap allowance, kharif and rabi crops	1		Dt. 07.03.2024
	Gross command area, culturable command area, Intensity of Irrigation, irrigable area, time factor, crop ratio	1		Dt. 11.03.2024

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		Dt. 12.03.2024
	Discussion on Loss of water in canals	1		Dt. 12.03.2024
	Perennial irrigation	1		Dt. 13.03.2024
	Different components of irrigation canals and their functions	1		Dt. 14.03.2024
	Sketches of different canal cross-sections	1		Dt. 15.03.2024
	Classification of canals according to their alignment, Various types of canal lining	1		Dt. 18.03.2024
	Advantages and disadvantages of canal lining.	1		Dt. 19.03.2024
7	**UNIT - 7 : WATER LOGGING AND DRAINAGE**	**2**		
	Causes and effects of water logging,	1		Dt. 20.03.2024
	Detection, prevention and remedies of water logging.	1		Dt. 21.03.2024
8	**UNIT - 8 : DIVERSION HEAD WORKS AND REGULATORY STRUCTURES**	**8**		
	Necessity of diversion head works.	1		Dt. 22.03.2024
	Objectives of diversion head works.	1		Dt. 27.03.2024
	Weirs & Barrages	1		Dt. 28.03.2024
	General layout and Different parts of Barrages	1		Dt. 28.03.2024
	Functions of different parts of barrage	1	APRIL	Dt. 02.04.2024
	S lting and scouring & How it occurs?	1		Dt. 03.04.2024
	Functions of regulatory structures	1		Dt. 03.04.2024
	CLASS TEST - I	1		Dt. 05.04.2024

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. 08.04.2024
	Necessity of Cross drainage works	1		Dt. 09.04.2024
	Functions of Cross drainage works	1		Dt. 10.04.2024
	Different types of CD-works. Aqueduct, siphon aqueduct , super-passage, level crossing	1		Dt. 10.04.2024
	Concept of aqueduct & Syphon aqueduct with help of neat sketch	1		Dt. 12.04.2024
	Concept of Super Passage & Level crossing with help of neat sketch	1		Dt. 15.04.2024
	Revision	1		Dt. 16.04.2024
10	**UNIT - 10 : DAMS**	8		
	Necessity of storage reservoirs & types of dams	1		Dt. 18.04.2024
	Earthen dams & its Types,	1		Dt. 19.04.2024
	Causes of failure of Earthen dam and protection measures.	1		Dt. 22.04.2024
	Gravity dam & its types	1		Dt. 23.04.2024
	Causes of failure of Gravity dam and protection measures.	1		Dt. 25.04.2024
	Spillways & its Types (With Sketch)	1		Dt. 25.04.2024
	Necessity of Spillways	1		Dt. 26.04.2024
	CLASS TEST - II	1		Dt. 26.04.2024

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THEORY LESSON PLAN FOR THE SESSION 2023 - 24

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

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

SEMESTER FROM : 16.01.2024 to 26.04.2024

THEORY SUBJECT : LAND 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		
	Surveying: Definition, Aims and objectives	1	JAN	Dt.16.01.2024
	Principles of survey-Plane surveying- Geodetic Surveying- Instrumental surveying.	1		Dt.17.01.2024
	Precision and accuracy of measurements, instruments used for measurement of distance,	1		Dt.18.01.2024
	Types of tapes and chains.	1		Dt.19.01.2024
	Errors and mistakes in linear measurement – classification, Sources of errors and remedies.	1		Dt.22.01.2024
	Corrections to measured lengths due to-incorrect length, temperature variation, pull, sag,	1		Dt.24.01.2024
	Numerical problem applying corrections.	1		Dt.25.01.2024
2	**UNIT - 2 : CHAINING & CHAIN SURVEYING**	7		
	Equipment and accessories for chaining	1		Dt.29.01.2024
	Ranging – Purpose, signaling, direct and indirect ranging, Line ranger – features and use, error due to incorrect ranging.	1		Dt. 30.01.2024
	Methods of chaining –Chaining on flat ground, Chaining on sloping ground – stepping method, Clinometer-features and use, slope correction.	1		Dt.31.01.2024
	Setting perpendicular with chain & tape, Chaining across different types of obstacles –Numerical problems on chaining across obstacles.	1	FEB	Dt.01.02.2024
	Purpose of chain surveying, Its Principles, concept of field book. Selection of survey stations, base line, tie lines, Check lines.	1		Dt.02.02.2024

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. 05. 02. 2024
	Errors in chain surveying – compensating and accumulative errors causes & remedies, Precautions to be taken during chain surveying.	1		Dt. 06. 02. 2024
	UNIT - 3 : ANGULAR MEASUREMENT & COMPASS SURVEYING	**12**		
	Measurement of angles with chain, tape & compass	1		Dt. 07. 02. 2024
	Compass – Types, features, parts, merits & demerits, testing & adjustment of compass	1		Dt. 08. 02. 2024
	Designation of angles- concept of meridians – Magnetic, True, arbitrary; Concept of bearings – Whole circle bearing, Quadrantal bearing	1		Dt. 09. 02. 2024
	Reduced bearing, suitability of application Numerical problems on conversion of bearings	1		Dt. 12. 02. 2024
	Use of compasses – setting in field-centering, leveling, taking readings, concepts of Fore bearing, Back Bearing	1		Dt. 13. 02. 2024
	Numerical problems on computation of interior & exterior angles from bearings.	1		Dt. 15. 02. 2024
	Errors in angle measurement with compass – sources & remedies	1		Dt. 16. 02. 2024
	Principles of traversing – open & closed traverse, Methods of traversing.	1		Dt. 19. 02. 2024
	Local attraction – causes, detection, errors, corrections, Numerical problems of application of correction due to local attraction.	1		Dt. 20. 02. 2024
	Errors in compass surveying – sources & remedies.	1		Dt. 21. 02. 2024
	Plotting of traverse – check of closing error in closed & open traverse,	1		Dt. 22. 02. 2024
	Bowditch's correction, Gales table	1		Dt. 23. 02. 2024

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. 26.02.2024
	Study of Signs and Symbols	1		Dt. 27.02.2024
	Cadastral Map Preparation Methodology	1		Dt. 28.02.2024
	Unique identification number of parcel	1		Dt. 29.02.2024
	Positions of existing Control Points and its types	1	MARCH	Dt. 01.03.2024
	Adjacent Boundaries and Features, Topology Creation and verification.	1		Dt. 04.03.2024
	CLASS TEST - I	1		Dt. 06.03.2024
5	**UNIT - 5 : PLANE TABLE SURVEYING**	**7**		
	Objectives, principles and use of plane table surveying.	1		Dt. 07.03.2024
	Instruments & accessories used in plane table surveying.	1		Dt. 11.03.2024
	Methods of plane table surveying – (1) Radiation, (2) Intersection, (3) Traversing, (4) Resection	1		Dt. 12.03.2024
	Statements of Two point problem.	1		Dt. 13.03.2024
	Statements of Three point problem.	1		Dt. 14.03.2024
	Errors in plane table surveying and their corrections, precautions in plane table surveying.	1		Dt. 15.03.2024
	Errors in plane table surveying and their corrections, precautions in plane table surveying.	1		Dt. 18.03.2024
6	**UNIT - 6 : THEODOLITE SURVEYING AND TRAVERSING**	**15**		
	Purpose and definition of theodolite surveying	1		Dt. 19.03.2024
	Transit theodolite- Description of features, component parts, Fundamental axes of a theodolite,	1		Dt. 20.03.2024

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. 21.03.2024
	Concept of transiting –Measurement of horizontal and vertical angles.	1		Dt. 22.03.2024
	Measurement of magnetic bearings, deflection angle, direct angle, setting out angles, prolonging a straight line with theodolite.	1		Dt. 27.03.2024
	Errors in Theodolite observations.	1		Dt. 28.03.2024
	Methods of theodolite traversing with – inclined angle method, deflection angle method, bearing method	1		Dt. 28.03.2024
	Plotting the traverse by coordinate method, Checks for open and closed traverse.	1		Dt. 02.04.2024
	Traverse computation – consecutive coordinates, latitude and departure, Gale's traverse table,	1		Dt. 02.04.2024
	Numerical problems on omitted measurement of lengths & bearings	1		Dt. 03.04.2024
	Closing error – adjustment of angular errors, adjustment of bearings	1		Dt. 03.04.2024
	Numerical problems based on bearing & adjustment of angular errors	1		Dt. 04.04.2024
	Balancing of traverse – Bowditch's method,	1		Dt. 04.04.2024
	Balancing of traverse - Transit method, graphical method, axis method	1		Dt. 05.04.2024
	Calculation of area of closed traverse & Numerical Problmes.	1		Dt. 05.04.2024
7	**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. 08.04.2024
	Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis.	1		Dt. 09.04.2024
	Levelling staff – Temporary adjustments of level, taking reading with level, concept of bench mark, BS, IS, FS, CP, HI.	1		Dt. 09.04.2024

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. 10.04.2024
	Numerical problems on reduction of levels applying both methods, Arithmetic checks.	1		Dt. 10.04.2024
	Effects of curvature and refraction, numerical problems on application of correction.	1		Dt. 12.04.2024
	Reciprocal leveling – principles, methods, numerical problems, precise leveling.	1		Dt. 15.04.2024
	Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels.	1		Dt. 16.04.2024
	Definitions, concepts and characteristics of contours	1		Dt. 16.04.2024
	Methods of contouring, plotting contour maps, Interpretation of contour maps, toposheets.	1		Dt. 18.04.2024
	Use of contour maps on civil engineering projects – drawing cross-sections from contour maps,	1		Dt. 18.04.2024
	Locating proposal routes of roads / railway / canal on a contour map, computation of volume of earthwork from contour map for simple structure.	1		Dt. 19.04.2024
	Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.)	1		Dt. 19.04.2024
	Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making	1		Dt. 22.04.2024
	Revision	1		Dt. 22.04.2024

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. 22.04.2024
	Calculation of area by using ordinate rule, trapezoidal rule, Simpson's rule.	1		Dt. 23.04.2024
	Calculation of volumes by prismoidal formula and trapezoidal formula	1		Dt. 23.04.2024
	Prismoidal corrections, curvature correction for volumes.	1		Dt. 24.04.2024
	Revision & Class Test - I	1		Dt. 25.04.2024

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P.C.I.E.T., CHHENDIPADA, DIST- ANGUL				
THEORY LESSON PLAN FOR THE SESSION 2023 - 24				
BRANCH : CIVIL ENGG. SEMESTER : 4TH, SECTION :- (C1 & C2)			NAME OF THE FACULTY : (1) ER. SWARNAPRAVA PARIDA, (2) ER. SUNIL KUMAR SAHU (LECT. IN CIVIL ENGG.)	
SEMESTER FROM : 16.01.2024 to 26.04.2024			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	JAN	Dt. 16.01.2024
	Ministry of Surface Transport, Central Road Research Institute.	1		Dt. 17.01.2024
	Functions of Indian Roads Congress	1		Dt. 18.01.2024
	IRC classification of roads	1		Dt. 18.01.2024
	Organisation of state highway department	1		Dt. 19.01.2024
2	**UNIT-2 :Road Geometrics**	**20**		
	Glossary of terms used in geometric	1		Dt. 22.01.2024
	Importance of geometric design	1		Dt. 24.01.2024
	Discussion on right of way, formation width	1		Dt. 25.01.2024
	4oad margin, road shoulder, carriage way,	1		Dt. 29.01.2024
	Side slopes, kerbs, formation level, camber and gradient	1		Dt. 29.01.2024
	Design and average running speed,	1		Dt. 30.01.2024
	Problems based on sight distance	1		Dt. 31.01.2024
	Problems based on sight distance	1		Dt. 31.01.2024
	Stopping and passing sight distance	1		Dt. 01.02.2024
	Problems based on SSD	1		Dt. 02.02.2024

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		Dt. 05. 02. 2024
	Necessity of curves,	1		Dt. 06. 02. 2024
	Horizontal and vertical curves	1		Dt. 07. 02. 2024
	Transition curves	1		Dt. 07. 02. 2024
	Super elevation,	1		Dt. 08. 02. 2024
	Methods o f providing super – elevation	1		Dt. 09. 02. 2024
	Problems based on superelevation	1		Dt. 12. 02. 2024
	Problems based on superelevation	1		Dt. 13. 02. 2024
	Revision	1		Dt. 15. 02. 2024
	Class test	1		Dt. 16. 02. 2024
3	**Unit-3 : Road Materials**	**9**		
	Difference types of road materials in use: soil, aggregates, and binders	1		Dt. 19. 02. 2024
	Difference types of road materials in use: soil, aggregates, and binders	1		Dt. 20. 02. 2024
	Function of soil as highway Subgrade	1		Dt. 20. 02. 2024
	California Bearing Ratio: methods of finding CBR valued in the laboratory and at site and their significance	1		Dt. 21. 02. 2024
	California Bearing Ratio: methods of finding CBR valued in the laboratory and at site and their significance	1		Dt. 22. 02. 2024
	Testing aggregates: Abrasion test,	1		Dt. 23. 02. 2024
	impact test, crushing strength test,	1		Dt. 26. 02. 2024
	water absorption test & soundness test	1		Dt. 27. 02. 2024
	Revision	1		Dt. 28. 02. 2024

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. 28.02.2024
	typical cross-sections, functions of various components Flexible pavements:	1		Dt. 29.02.2024
	Sub-grade preparation: Setting out alignment of road, setting out bench marks, control pegs for embankment and cutting,	1		Dt. 29.02.2024
	Borrow pits, making profile of embankment, construction of embankment, compaction, stabilization, preparation of subgrade, methods of checking camber,	1	MARCH	Dt. 01.03.2024
	Gradient and alignment as per recommendations of IRC, equipment used for subgrade preparation	1		Dt. 01.03.2024
4	Sub base Course: Necessity of sub base, stabilized sub base, purpose of stabilization	1		Dt. 04.03.2024
	Types of stabilization:- Mechanical stabilization,Lime stabilization	1		Dt. 06.03.2024
	Cement stabilization,Fly ash stabilization	1		Dt. 07.03.2024
	Base Course: Preparation of base course, Brick soling, stone soling and metalling,	1		Dt. 11.03.2024
	Water Bound Macadam and wet-mix Macadam, Bituminous constructions: Different types	1		Dt. 11.03.2024
	Surfacing:Surface dressing(i) Premix carpet and (ii) Semi dense carpet	1		Dt. 12.03.2024
	Bituminous concrete,Grouting	1		Dt. 13.03.2024
	Rigid Pavements: Concept of concrete roads as per IRC specifications	1		Dt. 14.03.2024

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**		
	Introduction:	1		Dt. 14.03.2024
	Typical cross-sections showing all details of a typical hill road in cut, partly in cutting and partly in filling	1		Dt. 15.03.2024
	Typical cross-sections showing all details of a typical hill road in cut, partly in cutting and partly in filling	1		Dt. 18.03.2024
	Breast Walls,	1		Dt. 18.03.2024
	Retaining walls,	1		Dt. 19.03.2024
	Different types of bends	1		Dt. 20.03.2024
	Class test	1		Dt. 21.03.2024
6	**UNIT-6 :Road Drainage:**	**7**		
	Necessity of road drainage work,	1		Dt. 22.03.2024
	Cross drainage works	1		Dt. 27.03.2024
	Surface and sub-surface drains and storm water drains.	1		Dt. 27.03.2024
	Location, spacing and typical details of side drains,	1		Dt. 28.03.2024
	Side ditches for surface drainage, intercepting drains,	1		Dt. 28.03.2024
	Pipe drains in hill roads,	1	APRIL	Dt. 02.04.2024
	details of drains in cutting embankment, typical cross sections.	1		Dt. 03.04.2024

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. 04. 04. 2024
	Causes and remedies of road failures	1		Dt. 05. 04. 2024
	Maintenance of bituminous road such as patch work and resurfacing	1		Dt. 08. 04. 2024
	Maintenance of concrete roads – filling cracks, repairing joints,	1		Dt. 08. 04. 2024
	Maintenance of shoulders (berm), maintenance of traffic control devices	1		Dt. 09. 04. 2024
	Basic concept of traffic study, Traffic safety and traffic control signal	1		Dt. 10. 04. 2024
	Revision	1		Dt. 12. 04. 2024
8	**UNIT-8 : Construction equipments:**	**7**		
	Preliminary ideas of Hot mixing plant	1		Dt. 15. 04. 2024
	Tipper, tractors (wheel and crawler) scraper, bulldozer,	1		Dt. 16. 04. 2024
	Dumpers, shovels, graders, roller dragline	1		Dt. 18. 04. 2024
	Asphalt mixer and tar boilers	1		Dt. 19. 04. 2024
	Road pavers	1		Dt. 22. 04. 2024 , Dt. 23. 04. 2024
	Modern construction equipments for roads.	1		Dt. 24. 04. 2024, Dt. 25. 04. 2024
	Class test	1		Dt. 26. 04. 2024

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PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24

BRANCH:-CIVIL ENGG. **SEMESTER: 4TH** **SECTION:- C1**

NAME OF THE FACULTY : (1) ER. SUNIL KUMAR SAHU, (2) ER. SUMANTA PRADHAN, (3) ER. SUMANTA KUMAR SAHOO, (4) ER. PRITAM SAGAR SAHOO (LECT. IN CIVIL ENGG.)

SEMESTER FROM DT. 16.01.2024 TO 26.04.2024 **PRACTICAL SUBJECT: LAND SURVEY PRACTICE-I (PR-1)**

CLASS ALLOTTED /WEEK:- 07 PERIODS

Sl No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1	**Linear Measurements, Chaining and Chain Surveying:**	JAN		Dt. 20.01.2024
	1.1 Testing and adjusting of a metric chain.		04	Dt. 20.01.2024
	1.2 Measurement of distance between two points (more than 2 chain lengths apart) with chain including direct ranging.		04	Dt. 20.01.2024
	1.3 Setting out different types of triangles, given the lengths of sides with chain and tape.		04	Dt. 27.01.2024
	1.4 Measurement of distance between two points by chaining across a sloped ground using stepping method and a clinometer.		04	Dt. 27.01.2024
	1.5 Measurement of distance by chaining across a obstacles on the chain line i) a pond ii)a building iii) a stream/ river (in the event of non-availability of stream / river, a pond or lake may be taken, considering that chaining around the same is not possible.		03	Dt. 29.01.2024
	1.6 Setting perpendicular offsets to various objects (at least 3) from a chain line using-(1) tape, (2) cross-staff, (3) optical square and comparing the accuracy of the 3 methods		03	Dt. 29.01.2024
	1.7 Setting oblique offsets to objects (at least 3) from a chain using tape	FEB	04	Dt. 03.02.2024

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
	Angular Measurement and Compass Surveying:			
2	2.1 Testing and adjustment of Prismatic compass and Surveyor's compass.		03	Dt. 05.02.2024
	2.2 Measurement of bearings of lines (at least 3 lines) and determination of included angles using Prismatic compass and Surveyor's compass.		04	Dt. 10.02.2024
	2.3 Setting out triangles (at least 2) with compass, given the length and bearing of one side and included angles.		04	Dt. 03.02.2024
	2.4 Setting out a closed traverse of 5 sides, using prismatic compass, given bearing of one line and included angles and lengths of sides.		03	Dt. 05.02.2024
	2.5 Conducting chain and compass traverse surveying in a given plot of area (2plots) and recording data in the field book.		04	Dt. 10.02.2024
	Map Reading Cadastral Maps & Nomenclature:			
3	3.1 Study of direction, Scale, Grid Reference and Grid Square		04	Dt. 12.02.2024
	3.2 Study of Signs and Symbols		03	Dt. 12.02.2024
	3.3 Cadastral Map Preparation Methodology		04	Dt. 17.02.2024
	3.4 Unique identification number of parcel		04	Dt. 17.02.2024
	3.5 Positions of existing Control Points and its types		03	Dt. 19.02.2024
	3.6 Adjacent Boundaries and Features, Topology Creation and verification.		03	Dt. 19.02.2024

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
4	**Plane Table Surveying:**			
	4.1 Setting up of Plane Table and Plotting five points by radiation method and five inaccessible points by intersection method.		04	Dt. 24.02.2024
	4.2 Conducting Plane Table surveying in a given plot of area by traversing (Atleast a 5-sided traverse and locating the objects)		04	Dt. 24.02.2024
	4.3 Plane table surveying by Resection method (two point &three point problem method)		03	Dt. 26.02.2024
5	**Theodolite Traversing:**			
	5.1 Measurement of horizontal angles (3nos.) by repetition and reiteration method and compare two methods		04	Dt. 26.02.2024
	5.2 Prolonging a given straight line with the help of a theodolite	MAR	04	Dt. 02.03.2024
	5.3 Determination of magnetic bearing of 3 given straight lines Setting out a closed traverse with 6 sides and entering the field data		03	Dt. 04.03.2024
	5.4 Plotting the traverse from exercise 4.1 and checking the error of closure		04	Dt. 02.03.2024
	5.5 Setting out an open traverse with 5 sides and entering the field data		03	Dt. 04.03.2024
	5.6 Plotting the traverse from exercise 4.3 and checking the error of closure		04	Dt. 09.03.2024
6	**Leveling and Contouring:**			
	6.1 Making temporary adjustments of Levels		04	Dt. 09.03.2024
	6.2 Determining Reduced Levels of five given points taking staff readings with Levels.		03	Dt. 11.03.2024

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
	6.3 Determining the difference of levels between two points (3 pairs of points / group) by taking staff readings form single set up of level, recording the readings in level book and application of Arithmetic check. (At least 3 change points must be covered)		03	Dt. 11.03.2024
	6.4 Conduct Fly Leveling (Compound) between two distant points with respect to R.L. of a given B.M. and reduction of levels by both height of collimation and rise & fall method and applying Arithmetic check. (At least 3 change points must be covered)		04	Dt. 16.03.2024
	6.5 Conduct profile leveling along the given alignment for a road / canal for 150m length, taking L. S. at every 15m and C. S. at 1m & 3m apart on both sides at every 30m interval and recording the data in level book and applying arithmetical check.		04	Dt. 16.03.2024
	6.6 Locating contour points in the given area by direct method / indirect method		03	Dt. 18.03.2024
	6.7 Conducting block level survey in the given area		03	Dt. 18.03.2024
	6.8 Plotting and drawing contour map of a given area by radial method		04	Dt. 23.03.2024
	6.9 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making		04	Dt. 23.03.2024
7	**Basics of Aerial Photography:**			
	7.1 Film		03	Dt. 30.03.2024
	7.2. Focal Length		03	Dt. 30.03.2024
	7.3. Scale	APRIL	04	Dt. 06.04.2024

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
	7.4. Types of Aerial Photographs (Oblique, Straight)		04	Dt.06.04.2024
B	**Basics of Photogrammetry, DEM and Ortho Image Generation:**			
	8.1 Classification of Photogrammetry		03	Dt. 08.04.2024
	8.2 Aerial Photogrammetry		03	Dt.08.04.2024
	8.3 Terrestrial Photogrammetry		04	Dt. 13.04.2024
	Photogrammetry Process:		04	Dt. 13.04.2024
	8.4 Acquisition of Imagery using aerial and satellite platform		03	Dt. 15.04.2024
	8.5 Control Survey		03	Dt. 15.04.2024
	8.6 Geometric Distortion in Imagery		04	Dt. 20.04.2024
	8.7 Application of Imagery and its support data		04	Dt. 20.04.2024
	8.8 Orientation and Triangulation		03	Dt 21.04.2024
	8.9 Stereoscopic Measurement: X-parallax and Y-parallax		03	Dt.21.04.2024
	8.10 DTM/DEM Generation		03	Dt. 21.04.2024
	8.11 Ortho Image Generation		04	Dt. 20.04.2024

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PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24

BRANCH:-CIVIL ENGG. SEMESTER: 4TH SECTION:- C1

NAME OF THE FACULTY : (1) ER. SIDHANTA SEKHAR MAHAR (3) ER. SUMANTA SAHOO (LECT. IN CIVIL ENGG.)

SEMESTER FROM DT. 16.01.2024 TO 26.04.2024 PRACTICAL SUBJECT: CIVIL ENGINEERING DRAWING – II (PR-2)

CLASS ALLOTTED /WEEK:- 06 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1	**Detailed Drawing of Culvert**			
	Half foundation plan and half top plan, cross sectional elevation and longitudinal section of	JAN	03	Dt. 16.01.2024 , Dt. 18.01.2024 Dt. 25.01.2024
	i) RCC Slab culvert with right angled wing wall	FEB	04	Dt. 30.01.2024, Dt. 02.02.2024 Dt. 06.02.2024 , Dt. 08.02.2024
	ii) Hume pipe culvert with splayed wing wall		04	Dt. 13.02.2024, Dt. 15.02.2024 Dt. 20.02.2024 & Dt. 22.02.2024
2	**Irrigation Structures**			
	2.1 Detail drawing of a vertical drop type fall (Sarada Type) from given specifications	MAR	04	Dt. 27.02.2024 , Dt. 29.02.2024 Dt. 07.03.2024 & Dt. 12.03.2024
	2.2 Drawing of a Drainage siphon from given specifications		04	Dt. 14.03.2024, Dt. 19.03.2024 Dt. 21.03.2024, Dt. 28.03.2024
3	Plumbing and Sanitary connections and fittings of a two roomed building	APRIL	04	Dt. 02.04.2024, Dt. 04.04.2024 Dt. 09.04.2024, Dt. 16.04.2024
4	Detailed drawing of septic tank up to 50 users with soak pit and necessary connection from the water closet.		03	Dt. 18.04.2024, Dt. 23.04.2024 Dt. 25.04.2024

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PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24

BRANCH:- CIVIL ENGINEERING **SEMESTER: 4TH** **SECTION:- C1**

NAME OF THE FACULTY:- (1) ER. SWARNAPRAVA PARIDA, (2) ER. SUMANTA PRADHAN (LECT. IN CIVIL ENGG.)

SEMESTER FROM DT. 16.01.2024 TO 26.04.2024 **PRACTICAL SUBJECT : TECHNICALSEMINAR (PR-3)**

CLASS ALLOTTED /WEEK-: 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
01	Introduction about Technical Seminar	JAN	02	Dt. 17.01. 2024 & Dt. 24.01. 2024
02	Selection of topic in the area of Civil Engg.	FEB	02	Dt. 31.01. 2024 & Dt. 07.02. 2024
03	Preparation of Power Point Presentation by the Students		02	Dt. 21.02. 2024 & Dt. 28.02.2024
04	Preparation of Seminar Report by the Student	MARCH	02	Dt. 06.03. 2024 & Dt. 13.03. 2024
05	Seminar Presentation of all students.	APRIL	02	Dt. 20.03. 2024 & Dt. 27.03. 2024 Dt. 03. 04. 2024
06	Submission of Seminar Report for Evaluation		02	Dt. 10.04. 2024, Dt. 24.04. 2024

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PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24

BRANCH:- CIVIL ENGG. **SEMESTER: 4TH** **SECTION : C1**

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

SEMESTER FROM DT. 16.01.2024 TO 26.04.2024 **PRACTICAL SUBJECT: STUDENT CENTRED ACTIVITIES**

CLASS ALLOTTED /WEEK :- 03 PERIODS

SL No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
01.	Library Study & Technical Quiz	JAN	02	Dt. 19.01.2024 & Dt. 09.02.2024
02	Seminar on Different Technical Topics	FEB	02	Dt. 16.02.2024 & Dt. 23.02.2024
03	Seminar On different Environment issues	MARCH	02	Dt. 01.03.2024 & Dt. 15.03.2024
04	Personality developement Class	APRIL	02	Dt. 22.03.2024 & Dt. 05.04.2024 Dt. 12.04.2024
05	Cultural Activities		02	Dt. 19.04.2024 , Dt. 26.04.2024

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PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24

BRANCH:-CIVIL ENGG. **SEMESTER: 4TH** **SECTION:- C2**

NAME OF THE FACULTY : (1) ER. SUNIL KUMAR SAHU, (2) ER. SUMANTA PRADHAN, (3) ER. SUMANTA KUMAR SAHOO, (4) ER. PRITAM SAGAR SAHOO (LECT. IN CIVIL ENGG.)

SEMESTER FROM DT. 16.01.2024 TO 26.04.2024 **PRACTICAL SUBJECT: LAND SURVEY PRACTICE-I (PR-1)**

CLASS ALLOTTED /WEEK:- 07 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1	**Linear Measurements, Chaining and Chain Surveying:**			
	1.1 Testing and adjusting of a metric chain.	JAN	04	Dt. 20.01. 2024
	1.2 Measurement of distance between two points (more than 2 chain lengths apart) with chain including direct ranging.		04	Dt. 20.01. 2024
	1.3 Setting out different types of triangles, given the lengths of sides with chain and tape.		03	Dt. 22. 01. 2024
	1.4 Measurement of distance between two points by chaining across a sloped ground using stepping method and a clinometer.		03	Dt. 22.01. 2024
	1.5 Measurement of distance by chaining across a obstacles on the chain line i) a pond ii)a building iii) a stream/ river (in the event of non-availability of stream / river, a pond or lake may be taken, considering that chaining around the same is not possible.		04	Dt. 27. 01. 2024
	1.6 Setting perpendicular offsets to various objects (at least 3) from a chain line using-(1) tape, (2) cross-staff, (3) optical square and comparing the accuracy of the 3 methods		04	Dt. 27. 01. 2024
	1.7 Setting oblique offsets to objects (at least 3) from a chain using tape		03	Dt. 29. 01. 2024

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
	Angular Measurement and Compass Surveying:			
2	2.1 Testing and adjustment of Prismatic compass and Surveyor's compass.		03	Dt. 29. 01. 2024
	2.2 Measurement of bearings of lines (at least 3 lines) and determination of included angles using Prismatic compass and Surveyor's compass.	FEB	04	Dt. 03.02. 2024
	2.3 Setting out triangles (at least 2) with compass, given the length and bearing of one side and included angles.		04	Dt. 03. 02. 2024
	2.4 Setting out a closed traverse of 5 sides, using prismatic compass, given bearing of one line and included angles and lengths of sides.		03	Dt. 05. 02. 2024
	2.5 Conducting chain and compass traverse surveying in a given plot of area (2plots) and recording data in the field book.		03	Dt. 05. 02. 2024
3	**Map Reading Cadastral Maps & Nomenclature:**		~~04~~	
	3.1 Study of direction, Scale, Grid Reference and Grid Square		04	Dt. 10. 02. 2024
	3.2 Study of Signs and Symbols		04	Dt. 10. 02. 2024
	3.3 Cadastral Map Preparation Methodology		03	Dt. 12. 02. 2024
	3.4 Unique identification number of parcel		03	Dt. 12.02. 2024
	3.5 Positions of existing Control Points and its types		04	Dt. 17. 02. 2024
	3.6 Adjacent Boundaries and Features, Topology Creation and verification.		04	Dt. 17. 02. 2024

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
	Plane Table Surveying:			
4	4.1 Setting up of Plane Table and Plotting five points by radiation method and five inaccessible points by intersection method.		03	Dt. 19.02.2024
	4.2 Conducting Plane Table surveying in a given plot of area by traversing (Atleast a 5-sided traverse and locating the objects)		03	Dt. 19.02.2024
	4.3 Plane table surveying by Resection method (two point &three point problem method)		04	Dt. 24.02.2024
	Theodolite Traversing:			
5	5.1 Measurement of horizontal angles (3nos.) by repetition and reiteration method and compare two methods		04	Dt. 24.02.2024
	5.2 Prolonging a given straight line with the help of a theodolite		03	Dt. 26.02.2024
	5.3 Determination of magnetic bearing of 3 given straight lines Setting out a closed traverse with 6 sides and entering the field data		03	Dt. 26.02.2024
	5.4 Plotting the traverse from exercise 4.1 and checking the error of closure	MAR	04	Dt. 02.03.2024
	5.5 Setting out an open traverse with 5 sides and entering the field data		04	Dt. 02.03.2024
	5.6 Plotting the traverse from exercise 4.3 and checking the error of closure		03	Dt. 04.03.2024
	Leveling and Contouring:			
6	6.1 Making temporary adjustments of Levels		03	Dt. 04.03.2024
	6.2 Determining Reduced Levels of five given points taking staff readings with Levels.		04	Dt. 09.03.2024

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
	6.3 Determining the difference of levels between two points (3 pairs of points / group) by taking staff readings form single set up of level, recording the readings in level book and application of Arithmetic check. (At least 3 change points must be covered)		04	Dt. 09. 03. 2024
	6.4 Conduct Fly Leveling (Compound) between two distant points with respect to R.L. of a given B.M. and reduction of levels by both height of collimation and rise & fall method and applying Arithmetic check. (At least 3 change points must be covered)		03	Dt. 11. 03. 2024
	6.5 Conduct profile leveling along the given alignment for a road / canal for 150m length, taking L. S. at every 15m and C. S. at 1m & 3m apart on both sides at every 30m interval and recording the data in level book and applying arithmetical check.		03	Dt. 11. 03. 2024
	6.6 Locating contour points in the given area by direct method / indirect method		04	Dt. 16. 03. 2024
	6.7 Conducting block level survey in the given area		04	Dt. 16. 03. 2024
	6.8 Plotting and drawing contour map of a given area by radial method		03	Dt. 18. 03. 2024
	6.9 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making		03	Dt. 18. 03. 2024
7	**Basics of Aerial Photography:**			
	7.1 Film		04	Dt. 23. 03. 2024
	7.2. Focal Length		04	Dt. 23. 03. 2024
	7.3. Scale		03	Dt. 30. 03. 2024

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
	7.4. Types of Aerial Photographs (Oblique, Straight)		03	Dt. 30.03.2024
8	**Basics of Photogrammetry, DEM and Ortho Image Generation:**			
	8.1 Classification of Photogrammetry	APRIL	04	Dt. 06.04.2024
	8.2 Aerial Photogrammetry		04	Dt. 06.04.2024
	8.3 Terrestrial Photogrammetry		03	Dt. 08.04.2024
	Photogrammetry Process:		03	Dt. 08.04.2024
	8.4 Acquisition of Imagery using aerial and satellite platform		04	Dt. 13.04.2024
	8.5 Control Survey		04	Dt. 13.04.2024
	8.6 Geometric Distortion in Imagery		03	Dt. 15.04.2024
	8.7 Application of Imagery and its support data		03	Dt. 15.04.2024
	8.8 Orientation and Triangulation		04	Dt. 20.04.2024
	8.9 Stereoscopic Measurement: X-parallax and Y-parallax		04	Dt. 20.04.2024
	8.10 DTM/DEM Generation		03	Dt. 21.04.2024
	8.11 Ortho Image Generation		03	Dt. 21.04.2024

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PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24

BRANCH:-CIVIL ENGG. **SEMESTER: 4TH** **SECTION:- C2**

NAME OF THE FACULTY : (1) ER. SIDHANTA SEKHAR MAHAR (3) ER. SUMANTA SAHOO (LECT. IN CIVIL ENGG.)

SEMESTER FROM DT. 16.01.2024 TO 26.04.2024 **PRACTICAL SUBJECT: CIVIL ENGINEERING DRAWING – II (PR-2)**

CLASS ALLOTTED /WEEK:- 06 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1	**Detailed Drawing of Culvert**			
	Half foundation plan and half top plan, cross sectional elevation and longitudinal section of	JAN	03	Dt. 16.01.2024 , Dt. 18.01.2024 Dt. 25.01.2024
	i) RCC Slab culvert with right angled wing wall	FEB	04	Dt. 30.01.2024, Dt. 02.02.2024 Dt. 06.02.2024 , Dt. 08.02.2024
	ii) Hume pipe culvert with splayed wing wall		04	Dt. 13.02.2024 , Dt. 15.02.2024 Dt. 20.02.2024 & Dt. 22.02.2024
2	**Irrigation Structures**			
	2.1 Detail drawing of a vertical drop type fall (Sarada Type) from given specifications	MAR	04	Dt. 27.02.2024 , Dt. 29.02.2024 Dt. 07.03.2024, Dt. 12.03.2024
	2.2 Drawing of a Drainage siphon from given specifications		04	Dt. 14.03.2024, Dt. 19.03.2024 Dt. 21.03.2024 , Dt. 28.03.2024
3	Plumbing and Sanitary connections and fittings of a two roomed building			Dt. 02.04.2024, Dt. 04.04.2024 Dt. 09.04.2024 , Dt. 16.04.2024
4	Detailed drawing of septic tank up to 50 users with soak pit and necessary connection from the water closet.			Dt. 18.04.2024, Dt. 23.04.2024 Dt. 25.04.2024

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PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24

BRANCH:- CIVIL ENGINEERING **SEMESTER: 4TH** **SECTION:- C2**

NAME OF THE FACULTY:- (1) ER. SWARNAPRAVA PARIDA, (2) ER. SUMANTA PRADHAN (LECT. IN CIVIL ENGG.)

SEMESTER FROM DT. 16.01.2024 TO 26.04.2024 **PRACTICAL SUBJECT : TECHNICALSEMINAR (PR-3)**

CLASS ALLOTTED /WEEK-: 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
01	Introduction about Technical Seminar	JAN	02	Dt. 17.01.2024 & Dt. 24.01.2024
02	Selection Of Topic in the area of Civil Engg.	FEB	02	Dt. 31.01.2024 & Dt. 07.02.2024
03	Preparation of Power Point Presentation by the Students		02	Dt. 21.02.2024 & Dt. 28.02.2024
04	Preparation of Seminar report by the Students.	MARCH	02	Dt. 06.03.2024 & Dt. 13.03.2024
05	Seminar Presentation of all Students.	APRIL	02	Dt. 20.03.2024, Dt. 27.03.2024 & Dt. 03.04.2024
06	Submission Of Seminar report for Evaluation		02	Dt. 10.04.2024, Dt. 24.04.2024

Swarnaprava Parida

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PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24

BRANCH:- CIVIL ENGG. **SEMESTER: 4TH** **SECTION : C2**

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

SEMESTER FROM DT. 16.01.2024 TO 26.04.2024 **PRACTICAL SUBJECT: STUDENT CENTRED ACTIVITIES**

CLASS ALLOTTED /WEEK :- 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
01	Library Study & Technical Quiz	JAN	02	Dt. 19.01.2024 & Dt.09.02.2024
02	Seminar On Different Technical Topics	FEB	02	Dt. 16.02.2024 & Dt. 23.02.2024
03	Seminar On Different Environment issues	MARCH	02	Dt. 01.03.2024 & Dt. 15.03.2024
04	Personality Developement Class	APRIL	02	Dt. 22.03.2024, Dt. 05.04.2024 & Dt. 12.04.2024
05	Cultural Activities		02	Dt. 19.04.2024 & Dt. 26.04.2024

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