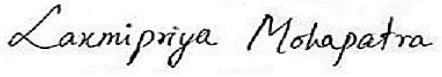
Discipline-Civil Engneering	Semestar- 4th	Name Of the teaching Faculty: Er.Pramila Kumari Gouda
Subject- Structural Design- 1	No. of Days/per week class alloted:5	Semestar From Date : 16/01/2024 To Date:26/04/2024
Week	Class Day	Theory/Practical Topics
1st	1st	**Chapter -1 (Working stress method (WSM))** Objectives of design and detailing. State the different methods of design of concrete structures.
	2nd	Introduction to reinforced concrete, R.C. sections their behavior
	3rd	Grades of concrete and steel.
	4th	Permissible stresses, assumption in W.S.M
	5th	Flexural design and analysis of single reinforced sections from first principles.
2nd	1st	Concept of under reinforced, over reinforced and balanced sections
	2nd	Advantages and disadvantages of WSM,
	3rd	Reasons for its obsolescence.
	4th	Reasons for its obsolescence.
	5th	**Chapter-2 (Philosophy Of Limit State Method (LSM))** Definition, Advantages of LSM over WSM
3rd	1st	IS code suggestions regarding design philosophy
	2nd	IS code suggestions regarding design philosophy
	3rd	Types of limit states, partial safety factors for materials strength,
	4th	Characteristic strength, characteristic load
	5th	Design load, loading on structure as per I.S. 875,
4th	1st	Study of I.S specification regarding spacing of reinforcement in slab
	2nd	cover to reinforcement in slab, beam column &
	3rd	footing, minimum reinforcement in slab, beam & column,
	4th	footing, minimum reinforcement in slab, beam & column,
	5th	lapping, anchorage,
5th	1st	effective span for beam & slab.
	2nd	**Chapert- 3 (Analysis and Design of Single and Double Reinforced Sections (LSM))** Limit state of collapse (flexure), Assumptions,
	3rd	Stress-Strain relationship for concrete and steel, neutral axis
	4th	stress block diagram and strain diagram for singly reinforced section
	5th	Concept of under- reinforced, over-reinforced and limiting section
6th	1st	Concept of under- reinforced, over-reinforced and limiting section
	2nd	Concept of under- reinforced, over-reinforced and limiting section
	3rd	Neutral axis co-efficient
	4th	limiting value of moment of resistance and limiting percentage of steel required for limiting singly R.C. section.
	5th	limiting value of moment of resistance and limiting percentage of steel required for limiting singly R.C. section.
7th	1st	Analysis and design: Determination of design constants
	2nd	Moment of resistance and area of steel for rectangular sections
	3rd	Moment of resistance and area of steel for rectangular sections
	4th	Necessity of doubly reinforced section
	5th	Design of doubly reinforced rectangular section
8th	1st	Design of doubly reinforced rectangular section
	2nd	**Chapter -4 (Shear, Bond and Development Length (LSM))** Nominal shear stress in R.C. section
	3rd	Design shear strength of concrete, maximum shear stress, design of shear reinforcement
	4th	Minimum shear reinforcement, forms of shear reinforcement
	5th	Bond and types of bond, bond stress
9th	1st	Check for bond stress,
	2nd	Development length in tension and compression
	3rd	Anchorage value for hooks 900 bend and 450 bend standards lapping of bars,
	4th	Check for development length
	5th	Numerical problems on deciding whether shear reinforcement is required or not,
	1st	Check for adequacy of the section in shear
	2nd	Design of shear reinforcement;

10th	3rd	Minimum shear reinforcement in beams (Explain through examples only)
	4th	**Chapter-5 (Analysis and Design of T-Beam (LSM))** General features, advantages
	5th	Effective width of flange as per IS: 456-2000 code provisions
11th	1st	Analysis of singly reinforced T-Beam, strain diagram
	2nd	Stress diagram, depth of neutral axis,
	3rd	Moment of resistance of T-beam section with neutral axis lying within the flange
	4th	Moment of resistance of T-beam section with neutral axis lying within the flange
	5th	Simple numerical problems on deciding effective flange width
12th	1st	**Chapter -6 (Analysis and Design of Slab and Stair case (LSM))** Design of simply supported one-way slabs for flexure check for deflection control and shear.
	2nd	Design of one-way cantilever slabs and cantilevers chajjas for flexure check for deflection control and
	3rd	Check for development length and shear.
	4th	Design of two-way simply supported slabs for flexure with corner free to lift.
	5th	Design of dog-legged staircase
13th	1st	Detailing of reinforcement in stairs spanning longitudinally
	2nd	**Chapter-7 (Design of Axially loaded columns and Footings (LSM))** Assumptions in limit state of collapse- compression.
	3rd	Definition and classification of columns, effective length of column
	4th	Specification for minimum reinforcement; cover
	5th	Specification for minimum reinforcement; cover
14th	1st	Maximum reinforcement, number of bars in rectangular,
	2nd	Maximum reinforcement, number of bars in rectangular,
	3rd	Square and circular sections, diameter and spacing of lateral ties
	4th	Square and circular sections, diameter and spacing of lateral ties
	5th	Analysis and design of axially loaded short square
15th	1st	Analysis and design of axially loaded short square
	2nd	Rectangular and circular columns (with lateral ties only)
	3rd	Types of footing
	4th	Design of isolated square column footing of uniform thickness for flexure and shear
	5th	Design of isolated square column footing of uniform thickness for flexure and shear
		 Signature

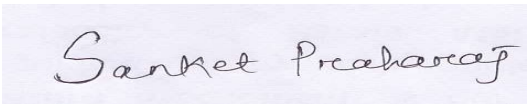
Discipline-Civil Engneering	Semestar- 4th	Name Of the teaching Faculty: Er.Laxmipriya Mohapatra
Subject- HYDRAULICS & IRRIGATION ENGINEERING	No. of Days/per week class alloted:5	Semestar From Date : 16/01/2024 To Date:26/04/2024
Week	**Class Day**	**Theory/Practical Topics**
1st	1st	**HYDRAULICS** **Chapter-1 (HYDROSTATICS)** Properties of fluid: density, specific gravity,
	2nd	surface tension, capillarity, viscosity and their uses
	3rd	Pressure and its measurements: intensity of pressure, atmospheric pressure,
	4th	gauge pressure, absolute pressure and vacuum pressure
	5th	relationship between atmospheric pressure,
2nd	1st	absolute pressure and gauge pressure; pressure head; pressure gauges
	2nd	Pressure exerted on an immersed surface: Total pressure, resultant pressure
	3rd	expression for total pressure exerted on horizontal & vertical surface.
	4th	**Chapter-2 (KINEMATICS OF FLUID FLOW)** Basic equation of fluid flow and their application:
	5th	Rate of discharge
3rd	1st	equation of continuity of liquid flow
	2nd	total energy of a liquid in motion- potential
	3rd	kinetic & pressure, Bernoulli's theorem and its limitations.
	4th	Practical applications of Bernoulli's equation.
	5th	Flow over Notches and Weirs: Notches,
4th	1st	Weirs, types of notches and weirs
	2nd	Discharge through different types of notches
	3rd	weirs-their application
	4th	Types of flow through the pipes: uniform and non uniform
	5th	laminar and turbulent steady and unsteady
5th	1st	Reynold's number and its application
	2nd	Losses of head of a liquid flowing through pipes: Different types of major and minor losses
	3rd	Simple numerical problems on losses due to friction using Darcy's equation
	4th	Total energy lines
	5th	hydraulic gradient lines (Concept Only)
6th	1st	Flow through the Open Channels: Types of channel sections- rectangular
	2nd	trapezoidal and circular, discharge formulae
	3rd	Chezy's and Manning's equation, Best economical section.
	4th	**Chapter-3(PUMPS)**
	5th	Type of pumps
7th	1st	Centrifugal pump: basic principles, operation
	2nd	discharge, horse power
	3rd	efficiency
	4th	Reciprocating pumps: types, operation
	5th	discharge, horse power & efficiency
8th	1st	**IRRIGATION ENGINERRING** **Chapter-1 (Hydrology)** Hydrology Cycle
	2nd	Rainfall: types, intensity, hyetograph
	3rd	Estimation of rainfall, rain gauges, Its types(concept only)
	4th	Concept of catchment area, types, run-off
	5th	estimation of flood discharge by Dicken's and Ryve's formulae

9th	1st	**Chapter-2 (Water Requirement of Crops)** Definition of irrigation, necessity, benefits of irrigation
	2nd	types of irrigation
	3rd	Crop season
	4th	Duty, Delta and base period their relationship
	5th	overlap allowance, kharif and rabi crops
10th	1st	Gross command area, culturable command area,
	2nd	Intensity of Irrigation, irrigable area , time factor, crop ratio
	3rd	**Chapter-3 (FLOW IRRIGATION)** Canal irrigation,
	4th	types of canals
	5th	loss of water in canals
11th	1st	Perennial irrigation
	2nd	Different components of irrigation canals and their functions
	3rd	Sketches of different canal cross-sections
	4th	Classification of canals according to their alignment
	5th	Various types of canal lining – Advantages and disadvantages
12th	1st	**Chapter- 4 (WATER LOGGING AND DRAINAGE)** Causes and effects of water logging
	2nd	detection, prevention and remedies
	3rd	Chapter-5 (DIVERSION HEAD WORKS ANDREGULATORY STRUCTURES) Necessity and objectives of diversion head works
	4th	weirs and barrages
	5th	General layout
13th	1st	functions of different parts of barrage
	2nd	Silting and scouring
	3rd	Functions of regulatory structures
	4th	**Chapter-6 (CROSS DRAINAGE WORKS)** Functions and necessity of Cross drainage works - aqueduct, siphon
	5th	superpassage,
14th	1st	level crossing
	2nd	Concept of each with help of neat sketch
	3rd	**Chapter-7 (DAMS)** Necessity of storage reservoirs
	4th	types of dams
	5th	Earthen dams: types, description
15th	1st	causes of failure and protection measures.
	2nd	3 Gravity dam- types, description
	3rd	Causes of failure and protection measures
	4th	Spillways- Types (With Sketch)
	5th	necessity
		 Signature

Discipline-Civil Engneering	Semester- 4th	Name Of the teaching Faculty: Sanket Praharaj
Subject- Land Survey - I	No. of Days/per week class alloted:5	Semester From Date : 16/01/2024 To Date:26/04/2024
Week	Class Day	Theory/Practical Topics
1st	1st	**Chapter-1 (INTRODUCTION TO SURVEYING, LINEAR MEASUREMENTS)** Surveying: Definition, Aims and objectives
	2nd	Principles of Survey-Plane surveying- Geodetic Surveying- Instrumental surveying.
	3rd	Precision and accuracy of measurements, instruments used for measurement of distance, Types of tapes and chains
	4th	Types of tapes and chains
	5th	Errors and mistakes in linear measurement – classification, Sources of errors and remedies
2nd	1st	Corrections to measured lengths due to-incorrect length,
	2nd	Temperature variation, pull, sag, numerical problem applying corrections
	3rd	**Chapter-2 (CHAINING AND CHAIN SURVEYING)** Equipment and accessories for chaining Ranging – Purpose, signaling, direct and indirect ranging
	4th	Line ranger – features and use, error due to incorrect ranging
	5th	Methods of chaining –Chaining on flat ground, Chaining on sloping ground steping method
3rd	1st	Clinometer-features and use, slope correction
	2nd	Setting perpendicular with chain & tape
	3rd	Chaining across different types of obstacles –Numerical problems on chaining across obstacles
	4th	Purpose of chain surveying, Its Principles, concept of field book. Selection of survey stations, base line, tie lines, Check lines
	5th	Offsets – Necessity, Perpendicular and Oblique offsets, Instruments for setting offset – Cross Staff, Optical Square
4th	1st	Errors in chain surveying – compensating and accumulative errors causes & remedies, Precautions to be taken during chain surveying
	2nd	**Chapter-3 (ANGULAR MEASUREMENT AND COMPAS SURVEYING)** Measurement of angles with chain, tape & compass
	3rd	Compass – Types, features, parts, merits & demerits, testing & adjustment of compass
	4th	Designation of angles- concept of meridians – Magnetic, True, arbitrary; Concept of bearings – Whole circle bearing
	5th	Quadrantal bearing, Reduced bearing, suitability of application, numerical problems on conversion of bearings
5th	1st	Use of compasses – setting in field-centering, leveling, taking readings
	2nd	concepts of Fore bearing, Back Bearing, Numerical problems on computation of interior & exterior angles from bearings
	3rd	Effects of earth's magnetism – dip of needle, magnetic declination, variation in declination
	4th	numerical problems on application of correction for declination
	5th	Errors in angle measurement with compass – sources & remedies
6th	1st	Principles of traversing – open & closed traverse, Methods of traversing.
	2nd	Local attraction – causes, detection, errors, corrections, Numerical problems of application of correction due to local attraction.
	3rd	Errors in compass surveying – sources & remedies. Plotting of traverse check of closing error in closed & open traverse, Bowditch's correction, Gales table

	4th	**Chapter-4 (MAP READING CADASTRAL MAPS & NOMENCLATURE)** Study of direction, Scale, Grid Reference and Grid Square Study of Signs and Symbols
	5th	Cadastral Map Preparation Methodology
7th	1st	Unique identification number of parcel
	2nd	Positions of existing Control Points and its types
	3rd	Adjacent Boundaries and Features, Topology Creation and verification
	4th	**Chapter -5 (PLANE TABLE SURVEYING)** Objectives, principles and use of plane table surveying
	5th	Instruments & accessories used in plane table surveying
8th	1st	Methods of plane table surveying –Radiation,
	2nd	Intersection, Traversing, Resection
	3rd	Statements of TWO POINT and THREE POINT PROBLEM
	4th	Errors in plane table surveying and their corrections, precautions in plane table surveying
	5th	**Chapter-6 (THEODOLITE SURVEYING AND TRAVERSING)** Purpose and definition of theodolite surveying
9th	1st	Transit theodolite- Description of features, component parts
	2nd	Fundamental axes of a theodolite, concept of vernier, reading a vernier
	3rd	Temporary adjustment of theodolite
	4th	Concept of transiting –Measurement of horizontal and vertical angles
	5th	Measurement of magnetic bearings, deflection angle, direct angle setting out angles
10th	1st	prolonging a straight line with theodolite, Errors in Theodolite observations
	2nd	Methods of theodolite traversing with – inclined angle method, deflection angle method
	3rd	bearing method, Plotting the traverse by coordinate method, Checks for open and closed traverse
	4th	Traverse computation – consecutive coordinates, latitude and departure, Gale's traverse table,
	5th	Numerical problems on omitted measurement of lengths & bearings
11th	1st	Closing error – adjustment of angular errors, adjustment of bearings, numerical problems
	2nd	Balancing of traverse – Bowditch's method, transit method, graphical method, axis method, calculation of area of closed traverse.
	3rd	**Chapter-7 (LEVELLING AND CONTOURING)** Definition and Purpose and types of leveling– concepts of level surface, Horizontal surface, vertical surface, datum, R. L., B.M
	4th	Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis
	5th	Levelling staff – Temporary adjustments of level,
12th	1st	Taking reading with level, concept of bench mark, BS, IS, FS, CP, HI.
	2nd	Field data entry – level Book – height of collimation method and Rise
	3rd	Fall method, comparison, Numerical problems on reduction of levels applying both methods, Arithmetic checks
	4th	Effects of curvature and refraction, numerical problems on application of correction.
	5th	Reciprocal leveling – principles, methods, numerical problems, precise leveling.
13th	1st	Errors in leveling and precautions
	2nd	Permanent and temporary adjustments of different types of levels
	3rd	Methods of contouring, plotting contour maps,
	4th	Interpretation of contour maps, toposheets

	5th	Use of contour maps on civil engineering projects – drawing crosssections from contour maps,
14th	1st	locating proposal routes of roads / railway
	2nd	Canal on a contour map, computation of volume of earthwork from contour map for simple structure
	3rd	Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.)
	4th	Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.)
	5th	Problem Solving and Decision Making
15th	1st	**Chapter-8 (COMPUTATION OF AREA & VOLUME)** Determination of areas, computation of areas from plans
	2nd	Calculation of area by using ordinate rule
	3rd	Trapezoidal rule, Simpson's rule.
	4th	Calculation of volumes by prismoidal formula
	5th	Trapezoidal formula, Prismoidal corrections, curvature correction for volumes.



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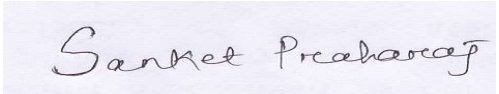
Discipline-Civil Engneering	Semestar- 4th	Name Of the teaching Faculty: Er. Rakesh Kumar Panda
Subject- HIGHWAY ENGINEERING	No. of Days/per week class alloted:5	Semestar From Date : 16/01/2024 To Date:26/04/2024
Week	Class Day	Theory/Practical Topics
1st	1st	**Chapter-1 (Introduction)** Importance of Highway transportation: Importance organizations like Indian roads congress.
	2nd	Ministry of Surface Transport, Central Road Research Institute.
	3rd	Functions of Indian Roads Congress
	4th	IRC classification of roads
	5th	Organisation of state highway department
2nd	1st	**Chapter-2 (Road Geometrics)** Glossary of terms used in geometric and their importance
	2nd	Glossary of terms used in geometric and their importance
	3rd	right of way
	4th	formation width
	5th	road margin
3rd	1st	road shoulder
	2nd	carriage way,
	3rd	side slopes
	4th	kerbs
	5th	formation level
4th	1st	camber and gradient
	2nd	Design running speed
	3rd	average running speed
	4th	stopping and passing sight distance
	5th	Necessity of curves
5th	1st	horizontal curves
	2nd	vertical curves
	3rd	including transition curves and super elevation
	4th	Methods o f providing super – elevation
	5th	**Chapter- 3 (Road Materials)** Difference types of road materials in use: soil, aggregates, and binders
6th	1st	Function of soil as highway Subgrade
	2nd	California Bearing Ratio: methods of finding CBR valued in the laboratory and at site and their significance
	3rd	Testing aggregates: Abrasion test, impact test, crushing strength test,
	4th	water absorption test & soundness test
	5th	**Chapter -4 (Road Pavements)** Road Pavement: Flexible and rigid pavement
7th	1st	their merits and demerits, typical cross-sections,
	2nd	functions of various components
	3rd	Flexible pavements: Sub-grade preparation:Setting out alignment of road, setting out bench marks
	4th	control pegs for embankment and cutting
	5th	borrow pits, making profile of embankment
8th	1st	construction of embankment, compaction
	2nd	stabilization, preparation of subgrade, methods of checking camber
	3rd	gradient and alignment as per recommendations of IRC, equipment used for subgrade preparation
	4th	Sub base Course: Necessity of sub base, stabilized sub base
	5th	purpose of stabilization (no designs)

9th	1st	Types of stabilization Mechanical stabilization, Lime stabilization, Cement stabilization, Fly ash stabilization
	2nd	Base Course: Preparation of base course
	3rd	Brick soling, stone soling and metalling
	4th	Water Bound Macadam and wet-mix Macadam
	5th	Bituminous constructions: Different types
10th	1st	Surfacing:Surface dressing (i) Premix carpet and (ii) Semi dense carpet, Bituminous concrete, Grouting
	2nd	Rigid Pavements: Concept of concrete roads as per IRC specifications
	3rd	**Chapter -5 (Hill Roads)** Introduction: Typical cross-sections showing all details of a typical hill road in cut
	4th	partly in cutting and partly in filling
	5th	Breast Walls,
11th	1st	Retaining walls, different types of bends
	2nd	**Chapter-6 (Road Drainage)** Necessity of road drainage work
	3rd	cross drainage works
	4th	Surface and sub-surface drains and storm water drains.
	5th	Location, spacing and typical details of side drains, side ditches for surface drainage
12th	1st	intercepting drains, pipe drains in hill roads,
	2nd	details of drains in cutting embankment, typical cross sections
	3rd	**Chapter-7 (Road Maintenance)** Common types of road failures – their causes and remedies
	4th	Maintenance of bituminous road such as patch work and resurfacing
	5th	Maintenance of concrete roads – filling cracks,
13th	1st	repairing joints,
	2nd	maintenance of shoulders (berm)
	3rd	maintenance of traffic control devices
	4th	Basic concept of traffic study
	5th	Traffic safety
14th	1st	traffic control signal
	2nd	**Chapter-8 (Construction equipments)** Hot mixing plant
	3rd	Tipper, tractors (wheel and crawler
	4th	scraper, bulldozer
	5th	dumpers, shovels
15th	1st	graders, roller dragline
	2nd	Asphalt mixer
	3rd	tar boilers
	4th	Road pavers
	5th	Modern construction equipments for roads

Rakesh Ku. Panda.

Signature

Discipline-Civil Engneering	Semester- 4th	Name of The Faculty-Sanket Praharaj
Subject- LAND SURVEY -1 Pratical	No. of Days/per week class alloted:5	Semester From Date-16/01/2024 to Date-26/04/2024
Week	Class Day	Theory/Practical Topics
1st	1st	Chapter-1 (Linear Measurements, Chaining and Chain Surveying) Testing and adjusting of a metric chain. Measurement of distance between two points with chain including direct ranging.
	2nd	
	3rd	
	4th	Setting out different types of triangles, given the lengths of sides with chain and tape. Measurement of distance between two points by
	5th	
	6th	Measurement of distance by chaining across a obstacles on the chain line Ex. a pond ,a building
	7th	
2nd	1st	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.
	2nd	
	3rd	
	4th	Setting perpendicular offsets to various objects (at least 3) from a chain line using-(1) tape, (2) cross-staff, (3) optical square and
	5th	
	6th	Setting oblique offsets to objects (at least 3) from a chain using tape.
	7th	
3rd	1st	Chapter-2 (Angular Measurement and Compass Surveying) Testing and adjustment of Prismatic compass and Surveyor's compass.
	2nd	
	3rd	
	4th	Measurement of bearings of lines and determination of included angles using Prismatic compass and Surveyor's compass
	5th	
	6th	Setting out triangles with compass, given the length and bearing of one side and included angles.
	7th	
4th	1st	Setting out a closed traverse of 5 sides, using prismatic compass, given bearing of one line and included angles and lengths of sides.
	2nd	
	3rd	
	4th	Conducting chain and compass traverse surveying in a given plot of area and recording data in the field book.
	5th	
	6th	Chapter-3 (Map Reading Cadastral Maps & Nomenclature) Study of direction, Scale, Grid Reference and Grid Square. Study of
	7th	
5th	1st	Cadastral Map Preparation Methodology. Unique identification number of parcel
	2nd	
	3rd	
	4th	Positions of existing Control Points and its types.Adjacent Boundaries and Features, Topology Creation and verification
	5th	
	6th	Chapter- 4 (Plane Table Surveying) Setting up of Plane Table and Plotting five points by radiation
	7th	
6th	1st	Conducting Plane Table surveying in a given plot of area by traversing
	2nd	
	3rd	
	4th	Plane table surveying by Resection method
	5th	
	6th	Chapter- 5 (Theodolite Traversing) Measurement of horizontal angles by Repetition Method
	7th	
7th	1st	Measurement of horizontal angles by reiteration method and compare two methods
	2nd	
	3rd	
	4th	Prolonging a given straight line with the help of a theodolite. Determination of magnetic bearing of 3 given straight lines.
	5th	
	6th	Setting out a closed traverse with sides and entering the field data. Plotting the traverse from exercise and checking the error of closure
	7th	
8th	1st	Chapter-6 (Leveling and Contouring) Making temporary adjustments of Levels. Determining Reduced Levels of five given points taking staff readings with Levels.
	2nd	
	3rd	
	4th	Determining the difference of levels between two points by taking staff readings form single set up of level.
	5th	
	6th	Recording the readings in level book and application of Arithmetic

	7th	check.
9th	1st	Conduct Fly Leveling (Compound) between two distant points with respect to R.L. of a given B.M. and reduction of levels by height of collimation
	2nd	
	3rd	
	4th	Conduct Fly Leveling (Compound) between two distant points with respect to R.L. of a given B.M. and reduction of levels by Rise and
	5th	
	6th	Conduct Fly Leveling (Compound) between two distant points with respect to R.L. of a given B.M. and reduction of levels by height of
	7th	
10th	1st	Conduct profile leveling along the given alignment for a road / canal for 150m length, taking L. S. at every 15m
	2nd	
	3rd	
	4th	C. S. at 1m & 3m apart on both sides at every 30m interval and recording the data in level book and applying arithmetical check.
	5th	
	6th	Locating contour points in the given area by direct method
	7th	
11th	1st	Locating contour points in the given area by direct method / indirect method. Conducting block level survey in the given area
	2nd	
	3rd	
	4th	Plotting and drawing contour map of a given area by radial method.
	5th	
	6th	Map Interpretation: Interpret Human and Economic Activities, Interpret Physical landform, Problem Solving and Decision Making
	7th	
12th	1st	Chapter-7 (Basics Of Aerial Photography) Film Focal Length Scale
	2nd	
	3rd	
	4th	Types of Aerial Photographs (Oblique, Straight)
	5th	
	6th	Chapter-8 Basics of Photogrammetry
	7th	
13th	1st	DEM and Ortho Image generation)
	2nd	
	3rd	
	4th	Photogrammetry Classification of Photogrammetry Aerial Photogrammetry. Terrestrial
	5th	
	6th	Acquisition of Imagery using aerial and satellite platform Control Survey
	7th	
14th	1st	Geometric Distortion in Imagery Application of Imagery and its support data
	2nd	
	3rd	
	4th	Orientation and Triangulation
	5th	
	6th	Stereoscopic Measurement:-X parallax and Y parallax
	7th	
15th	1st	DTM/DEM Generation
	2nd	
	3rd	
	4th	Ortho Image Generation
	5th	
	6th	Viva Voce and Record Checking
	7th	
		 Signature

Discipline-Civil Engneering	Semestar- 4th	Name Of the teaching Faculty: Er. Rakesh Kumar Panda/ Er. Brundaban Gomango
Subject- CIVIL ENGINEERING DRAWING-II	No. of Days/per week class alloted:5	Semestar From Date : 16/01/2024 To Date:26/04/2024
Week	Class Day	Theory/Practical Topics
1st	1st	**Chapter-1 (Detiailed Drwaing of Culvert)**
	2nd	Half foundation plan and half top plan, cross sectional elevation and longitudinal section of RCC Slab Culvert with Right Angled wing Wall
	3rd	
	4th	Half foundation plan and half top plan, cross sectional elevation and longitudinal section of RCC Slab Culvert with Right Angled wing Wall
	5th	
	6th	
2nd	1st	Half foundation plan and half top plan, cross sectional elevation and longitudinal section of RCC Slab Culvert with Right Angled wing Wall
	2nd	
	3rd	
	4th	Half foundation plan and half top plan, cross sectional elevation and longitudinal section of RCC Slab Culvert with Right Angled wing Wall
	5th	
	6th	
3rd	1st	Half foundation plan and half top plan, cross sectional elevation and longitudinal section of Hume Pipe Culvert with splayed wing wall
	2nd	
	3rd	
	4th	Half foundation plan and half top plan, cross sectional elevation and longitudinal section of Hume Pipe Culvert with splayed wing wall
	5th	
	6th	
4th	1st	Half foundation plan and half top plan, cross sectional elevation and longitudinal section of Hume Pipe Culvert with splayed wing wall
	2nd	
	3rd	
	4th	Half foundation plan and half top plan, cross sectional elevation and longitudinal section of Hume Pipe Culvert with splayed wing wall
	5th	
	6th	
5th	1st	**Chapter-2 (Irrigation Structures)**
	2nd	Detail drawing of a vertical drop type fall (Sarada Type) from given specifications
	3rd	
	4th	Detail drawing of a vertical drop type fall (Sarada Type) from given specifications
	5th	
	6th	
6th	1st	Detail drawing of a vertical drop type fall (Sarada Type) from given specifications
	2nd	
	3rd	
	4th	Detail drawing of a vertical drop type fall (Sarada Type) from given specifications
	5th	
	6th	
7th	1st	Detail drawing of a vertical drop type fall (Sarada Type) from given specifications
	2nd	
	3rd	
	4th	Detail drawing of a vertical drop type fall (Sarada Type) from given specifications
	5th	
	6th	
8th	1st	Drawing of a Drainage siphon from given specifications
	2nd	
	3rd	
	4th	Drawing of a Drainage siphon from given specifications
	5th	
	6th	
9th	1st	Drawing of a Drainage siphon from given specifications
	2nd	
	3rd	
	4th	Drawing of a Drainage siphon from given specifications
	5th	
	6th	

10th	1st	Drawing of a Drainage siphon from given specifications
	2nd	
	3rd	
	4th	Drawing of a Drainage siphon from given specifications
	5th	
	6th	
11th	1st	**Chapter-3(Plumbing & Sanitary)** Plumbing and Sanitary connections and fittings of a two roomed building
	2nd	
	3rd	
	4th	Plumbing and Sanitary connections and fittings of a two roomed building
	5th	
	6th	
12th	1st	Plumbing and Sanitary connections and fittings of a two roomed building
	2nd	
	3rd	
	4th	Plumbing and Sanitary connections and fittings of a two roomed building
	5th	
	6th	
13th	1st	Plumbing and Sanitary connections and fittings of a two roomed building
	2nd	
	3rd	
	4th	Plumbing and Sanitary connections and fittings of a two roomed building
	5th	
	6th	
14th	1st	**Chapter-4 (Septic Tank & Soak Pit For 50 Users)** Detailed drawing of septic tank up to 50 users with soak pit and necessary connection from the water closet.
	2nd	
	3rd	
	4th	Detailed drawing of septic tank up to 50 users with soak pit and necessary connection from the water closet.
	5th	
	6th	
15th	1st	Detailed drawing of septic tank up to 50 users with soak pit and necessary connection from the water closet.
	2nd	
	3rd	
	4th	Detailed drawing of septic tank up to 50 users with soak pit and necessary connection from the water closet.
	5th	
	6th	

Rakesh Ku. Panda.

Signature