

Discipline-Civil Engineering	Semestar- 6th	Name Of the teaching Faculty:- Er. Pramila ku. Gouda
Subject-LAND SURVEY PRACTICE – II	No. of Days/per week class allotted:5	Semestar From Date : 14/2/2023 To Date:23/5/2023
Week	Class Day	Theory/Practical Topics
1st	1st	CHAPTER-1(TRIGONOMETRICAL SURVEYING & TACHEOMETRY) Determination of height of 3 objects whose bases are accessible. Determination of stadia constants
	2nd	
	3rd	
	4th	Determination of horizontal distance an elevation with Staff vertical , by stadia method
	5th	
2nd	1st	CHAPTER-2(SETTING OUT CURVES AND SITE SURVEYING) Setting out a simple circular curve by offsets from long chord
	2nd	
	3rd	
	4th	Setting out a simple circular curve by offsets from the tangent
	5th	
3rd	1st	Setting out a simple circular curve by offsets from chords produces
	2nd	
	3rd	
	4th	Setting out a simple circular curve by Rankine’s method of tangent angle (Deflection angles) Setting out a site the center line and foundation width of a building from the given plan
	5th	
4th	1st	Setting out the foundation line for a culvert
	2nd	
	3rd	
	4th	Dividing an area into plots of given size
	5th	
5th	1st	CHAPTER-3(STUDY OF MAP & MAP SERIES) Physical Map Topographic Map
	2nd	
	3rd	
	4th	Road Map Political Map
	5th	

6th	1st	Economic & Resources Map Thematic Map
	2nd	
	3rd	
	4th	
	5th	
7th	1st	CHAPTER-4(STUDY ON GPS & DGPS AND ETS) GPS: - Global Positioning, GPS Signals, Errors of GPS, Positioning Methods
	2nd	
	3rd	
	4th	DGPS: - Differential Global Positioning System Base Station Setup Rover GPS Set up
	5th	
8th	1st	Download, Post-Process and Export GPS data Sequence to download GPS data from flashcard
	2nd	
	3rd	
	4th	Sequence to Post-Process GPS data Sequence to export post process GPS data
	5th	
9th	1st	Sequence to export post process GPS data Sequence to export GPS Time tags to file
	2nd	
	3rd	
	4th	ETS: - Electronic Total Station Distance Measurement
	5th	
10th	1st	Angle Measurement
	2nd	
	3rd	
	4th	Leveling
	5th	
11th	1st	Determining position
	2nd	
	3rd	
	4th	Reference networks Errors and Accuracy
	5th	

12th	1st	CHAPTER-5(STUDY OF GIS & MAP PREPARATION USING GIS) Components of GIS, Integration of Spatial and Attribute Information Three Views of Information System Database or Table View, Map View and Model View
	2nd	
	3rd	
	4th	2 Three Views of Information System 5.2.1 Database or Table View, Map View and Model View
	5th	
13th	1st	Spatial Data Model Attribute Data Management and Metadata Concept
	2nd	
	3rd	
	4th	Prepare data and adding to Arc Map Organizing data as layers
	5th	
14th	1st	Editing the layers Switching to Layout View.
	2nd	
	3rd	
	4th	Change page orientation Removing Borders, Adding and editing map information, Finalize the map
	5th	
15th	1st	Change page orientatio, Removing Borders, Adding and editing map information, Finalize the map
	2nd	
	3rd	
	4th	Change page orientatio, Removing Borders, Adding and editing map information, Finalize the map
	5th	

Discipline-Civil Engineering	Semestar- 6th	Name Of the teaching Faculty:- Er. Diptirani Mishra
Subject-Construction Management	No. of Days/per week class allotted:4	Semestar From Date : 14/2/2023 To Date:23/5/2023
Week	Class Day	Theory/Practical Topics
1st	1st	CHAPTER-1(Introduction To Construction Management) Aims and objectives of construction management
	2nd	Functions of construction management
	3rd	The construction team - components owner,engineer,architect,contractor-their functions and interrelationship and jurisdiction
	4th	Resources for construction management- men,machines,materials,money
2nd	1st	CHAPTER-2(Constructional Planning) Importance of Construction Planning
	2nd	Developing work breakdown structure for construction work
	3rd	Construction Planning stages-Pre-tender stage, Post-tender stage
	4th	Construction scheduling by Bar charts-preparation of Bar Charts for simple construction works
3rd	1st	Preparation of schedules for labour materials,machinery, finance for small works
	2nd	Limitation of Bar charts
	3rd	Construction scheduling by network techniques- defination of terms ,PERT and CPM techniques
	4th	Advantages and disadvantages of two techniques, network analysis
4th	1st	Estimation of time and critical path
	2nd	Application of PERT and CPM techniques in sample construction works
	3rd	Application of PERT and CPM techniques in sample construction works
	4th	Application of PERT and CPM techniques in sample construction works
5th	1st	CHAPTER-3(Materials and Stores Management) Classification of Stores-storage of stock
	2nd	Classification of Stores-storage of stock
	3rd	Issue of materials-indent , invoice, bin card
	4th	CHAPTER-4(Construction Site Management) Job Lay out- Objectives, Review plans, specifications, Lay out of equipments

6th	1st	Job Lay out-Objectives, Review plans, specifications, Lay out of equipments
	2nd	Location of equipment, organizing labour at site
	3rd	Job lay out for different construction sites
	4th	Principle of storing material at site
7th	1st	CHAPTER-5(Construction Organization) Introduction – Characteristics, Structure, importance
	2nd	Organization types-line and staff, functions and their characteristics
	3rd	Principles of organization- meaning and significance of terms- control, authority, responsibility, job & task
	4th	Leadership-necessity, styles of leadership, role of leader
8th	1st	Human relations-relations with subordinates, peers, Supervisors, characteristics of group behavior, mob psychology, handling of grievances, absenteeism, labour welfare
	2nd	Conflicts in organization-genesis of conflicts, types- intrapersonal, interpersonal, intergroup, resolving conflicts
	3rd	CHAPTER-7(Construction Labour and Labour Management) Preparing Labour schedule
	4th	Essential steps for optimum labour output
9th	1st	Labour characteristics
	2nd	Wages & their payment
	3rd	Labour incentives
	4th	Motivation- Classification of motives, different approaches to motivation
10th	1st	CHAPTER-6(Equipment Management) Preparing the equipment schedule
	2nd	Identification of different alternative equipment
	3rd	Importance of Owning & operating costs in making decisions for hiring & purchase of equipment
	4th	Inspection and testing of equipment
11th	1st	Equipment maintenance
	2nd	CHAPTER-8(Quality Control) Concept of quality in construction
	3rd	Quality Standards- during construction, after construction
	4th	Destructive & non destructive methods

12th	1st	CHAPTER-9(Monitoring Progress) Programme and progress of work
	2nd	Analysis and control of physical and financial progress corrective measures
	3rd	CHAPTER-10(Safety Management In Construction) Importance of safety & causes and effects of accidents in construction works
	4th	Safety measures in worksites for excavation, scaffolding, formwork, fabrication and erection, demolition
13th	1st	Development of safety consciousness
	2nd	Safety legislation- Workman’s compensation act, contract labour act
	3rd	CHAPTER-11(Role of Vulnerability Atlas of India in construction projects) Introduction to Vulnerability Atlas of India, Concepts of natural hazards and disasters and vulnerability profile of India
	4th	Definition of disaster related terms
14th	1st	Earthquake hazard and vulnerability, Magnitude and intensity scales of earthquake, seismic zones, earthquake hazard maps
	2nd	Types of structures and damage classification, effects in housing and resistant measures
	3rd	Wind / Cyclone hazard and vulnerability, wind speed and pressures, wind hazard and cyclone occurrence maps, storm surveys and cyclone resistant measures
	4th	Flood hazard and vulnerability, Flood hazard and Flood prone areas of the country, General protection of habitants and flood resistant construction
15th	1st	Landslides, Tsunamis and Thunderstorm hazards and vulnerability
	2nd	Landslide & Thunderstorm incidence maps, Measures against Tsunami hazards
	3rd	Housing vulnerability risk tables and usage of vulnerability atlas of India, Inclusion of vulnerability atlas in Tender documents
	4th	Housing vulnerability risk tables and usage of vulnerability atlas of India, Inclusion of vulnerability atlas in Tender documents

Discipline-Civil Engineering	Semestar- 6th	Name Of the teaching Faculty:- Er. Manoranjan Nayak
Subject-Advanced Construction Techniques & Equipments	No. of Days/per week class allotted:4	Semestar From Date : 14/2/2023 To Date:23/5/2023
Week	Class Day	Theory/Practical Topics
1st	1st	CHAPTER-1(Advanced construction materials) Fibers and Plastics :-Types of fibers- Steel, Carbon, glass fibers, Use of fibers as construction material, properties of Fibers
	2nd	Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc
	3rd	Colored plastic sheets
	4th	Use of plastic as construction material
2nd	1st	Artificial Timbers :-Properties and uses of artificial timber
	2nd	Types of artificial timber available in market
	3rd	Strength of artificial timber
	4th	Miscellaneous materials -Properties and uses of acoustics materials
3rd	1st	Wall claddings, plaster boards, micro-silica
	2nd	Artificial sand, bonding agents, adhesives
	3rd	CHAPTER-2(Prefabrication) Introduction, necessity and scope of prefabrication of buildings, history of prefabrication, current uses of prefabrication
	4th	Types of prefabricated systems
4th	1st	Classification of prefabrication, advantages and disadvantages of prefabrication
	2nd	The theory and process of prefabrication, design principle of prefabricated systems
	3rd	Types of prefabricated elements, modular coordination
	4th	Indian standard recommendation for modular planning
5th	1st	Indian standard recommendation for modular planning
	2nd	CHAPTER-3(Earthquake Resistant Construction) Building Configuration
	3rd	Lateral Load resisting structures
	4th	Building characteristics
6th	1st	Effect of structural irregularities-vertical irregularities,
	2nd	Effect of structural irregularities-vertical irregularities,
	3rd	plan configuration problems
	4th	plan configuration problems

7th	1st	Safety consideration during additional construction and alteration of existing Buildings
	2nd	Safety consideration during additional construction and alteration of existing Buildings
	3rd	Additional strengthening measures in masonry building-corner reinforcement
	4th	Additional strengthening measures in masonry building-corner reinforcement
8th	1st	lintel band, sill band, plinth band, roof band, gable band etc
	2nd	CHAPTER-4(Retrofitting of Structures) Seismic retrofitting of reinforced concrete buildings
	3rd	Seismic retrofitting of reinforced concrete buildings
	4th	Sources of weakness in RC frame building
9th	1st	Sources of weakness in RC frame building
	2nd	Classification of retrofitting techniques and their uses
	3rd	Classification of retrofitting techniques and their uses
	4th	CHAPTER-5(Building Services) Cold Water Distribution in high rise building, lay out of installation
10th	1st	Hot water supply – General principles for central plants-layout
	2nd	Sanitation –soil and waste water installation in high rise buildings
	3rd	Electrical services – i) requirements in high rise buildings ii) Layout of wiring - types of wiring
	4th	iii) Fuses and their types iv)Earthing and their uses
11th	1st	Lighting – Requirement of lighting, Measurement of light intensity
	2nd	Ventilation - Methods of ventilation (Natural and artificial Systems of ventilation)
	3rd	Problems on ventilation
	4th	Mechanical Services- Lifts, Escalator, Elevators – types and uses
12th	1st	CHAPTER-6(Construction and earth moving equipments) Planning and selection of construction equipments
	2nd	Planning and selection of construction equipments
	3rd	Study on earth moving equipments like drag line, tractor, bulldozer, Power shovel
	4th	Study on earth moving equipments like drag line, tractor, bulldozer, Power shovel

13th	1st	Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers
	2nd	Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers
	3rd	Pneumatic tired rollers and vibrating compactors
	4th	Owning and operating cost – problems
14th	1st	Owning and operating cost – problems
	2nd	CHAPTER-7(Soil reinforcing techniques) Necessity of soil reinforcing
	3rd	Use wire mesh and geo-synthetics
	4th	Strengthening of embankments
15th	1st	Slope stabilization in cutting and embankments by soil reinforcing techniques
	2nd	Slope stabilization in cutting and embankments by soil reinforcing techniques
	3rd	Slope stabilization in cutting and embankments by soil reinforcing techniques
	4th	Slope stabilization in cutting and embankments by soil reinforcing techniques

Discipline-Civil Engineering	Semestar- 6th	Name Of the teaching Faculty:- Er. Rakesh Ku. Panda
Subject-Concrete Technology	No. of Days/per week class allotted:4	Semestar From Date : 14/2/2023 To Date:23/5/2023
Week	Class Day	Theory/Practical Topics
1st	1st	CHAPTER-1(Concrete as a construction material) Grades of concrete
	2nd	Advantages and disadvantages of concrete
	3rd	CHAPTER-2(Cement) Composition, hydration of cement
	4th	Water cement ratio and compressive strength
2nd	1st	Fineness of cement, setting time, soundness
	2nd	Types of cement
	3rd	CHAPTER-3(Aggregate, Water and Admixtures) Classification and characteristics of aggregate
	4th	Fineness modulus, grading of aggregate, I.S.383
3rd	1st	Quality of water for mixing and curing
	2nd	Important functions, classification of admixtures
	3rd	Accelerating admixtures, retarding admixtures
	4th	Water reducing admixtures, air containing admixtures
4th	1st	CHAPTER-4(Properties of fresh concrete) Concept of fresh concrete, workability
	2nd	Slump test
	3rd	Compacting factor test
	4th	V-bee consistency test and flow test
5th	1st	Requirement of workability, I.S.1199
	2nd	CHAPTER-5(Properties of hardened concrete) Cube and cylinder compressive strengths
	3rd	Flexural strength of concrete, stress-strain and elasticity
	4th	Phenomena of creep and shrinkage

6th	1st	Permeability, durability of concrete
	2nd	Sulphate, chloride and acid attack on concrete
	3rd	Efflorescence
	4th	CHAPTER-6(Concrete mix Design) Introduction & Data or input required for mix design
7th	1st	Nominal mix concrete & design mix concrete
	2nd	Basic consideration for concrete mix design
	3rd	Methods of proportioning concrete mix – I.S Code method of mix design(I.S.10262)
	4th	Methods of proportioning concrete mix – I.S Code method of mix design(I.S.10262)
8th	1st	CHAPTER-7(Production of concrete) Batching of materials, mixing of concrete materials
	2nd	transportation, placing of concrete
	3rd	compaction of concrete (vibrators)
	4th	Curing of concrete
9th	1st	Formwork-requirements and types ,stripping of forms
	2nd	Formwork-requirements and types ,stripping of forms
	3rd	CHAPTER-8(Inspection and Quality Control of Concrete) Quality control of Concrete as per I.S.456
	4th	Factors causing the variations in the quality of concrete
10th	1st	Mixing, Transporting, Placing & curing requirements of Concrete as per I.S.456
	2nd	Inspection and Testing as per Clause 17 of IS:456
	3rd	Inspection and Testing as per Clause 17 of IS:456
	4th	Durability requirements of Concrete as per I.S:456
11th	1st	CHAPTER-9(Special Concrete) Introduction to ready mix concrete
	2nd	high performance concrete,
	3rd	silica fume concrete
	4th	Shot-crete concrete or gunniting

12th	1st	Shot-crete concrete or gunniting
	2nd	CHAPTER-10(Deterioration of concrete and its prevention) Types of deterioration
	3rd	Types of deterioration
	4th	prevention of concrete deterioration
13th	1st	prevention of concrete deterioration
	2nd	corrosion of reinforcement
	3rd	corrosion of reinforcement
	4th	effects and prevention
14th	1st	CHAPTER-11(Repair technology for concrete structures) Symptom, cause and prevention and remedy of defects during construction
	2nd	Symptom, cause and prevention and remedy of defects during construction
	3rd	Cracking of concrete due to different reasons.
	4th	Repair of cracks for different purposes
15th	1st	Selection of techniques
	2nd	Polymer based repairs
	3rd	Common types of repairs
	4th	Common types of repairs

Discipline-Civil Engineering	Semestar- 6th	Name Of the teaching Faculty: Pramila Ku. Gouda
Subject-Land Survey-2	No. of Days/per week class allotted:5	Semestar From Date : 14/2/2023 To Date:23/5/2023
Week	Class Day	Theory/Practical Topics
1st	1st	CHAPTER-1(TACHEOMETRY) Principles, stadia constants determination
	2nd	Principles, stadia constants determination
	3rd	Principles, stadia constants determination
	4th	Stadia tacheometry with staff held vertical and with line of collimation horizontal
	5th	Stadia tacheometry with staff held vertical and with line of collimation inclined
2nd	1st	Numerical problems
	2nd	Elevations and distances of staff stations
	3rd	Elevations and distances of staff stations
	4th	Elevations and distances of staff stations
	5th	CHAPTER-2(CURVES) Compound, reverse and transition curve, Purpose & use of different types of curves in field
3rd	1st	Elements of circular curves, numerical problems
	2nd	Preparation of curve table for setting out
	3rd	Setting out of circular curve by chain and tape and by instrument angular methods (i) offsets from long chord, (ii) successive bisection of arc
	4th	iii) offsets from tangents, (iv) offsets from chord produced
	5th	Rankine's method of tangent angles
4th	1st	Obstacles in curve ranging – point of intersection inaccessible
	2nd	Obstacles in curve ranging – point of intersection inaccessible
	3rd	CHAPTER-3(BASICS ON SCALE AND BASICS OF MAP) Fractional or Ratio Scale, Linear Scale, Graphical Scale
	4th	Fractional or Ratio Scale, Linear Scale, Graphical Scale
	5th	What is Map, Map Scale and Map Projections
5th	1st	What is Map, Map Scale and Map Projections
	2nd	How Maps Convey Location and Extent
	3rd	How Maps Convey characteristics of features
	4th	How Maps Convey Spatial Relationship
	5th	Classification of Maps Physical Map, Topographic Map, Road Map, Political Map, Economic & Resources Map, Thematic Map, Climate Map

6th	1st	CHAPTER-4(SURVEY OF INDIA MAP SERIES) Open Series map
	2nd	Defense Series Map
	3rd	Map Nomenclature-Quadrangle Name
	4th	Latitude, Longitude, UTM's
	5th	Contour Lines
7th	1st	Magnetic Declination
	2nd	Public Land Survey System
	3rd	Field Notes
	4th	CHAPTER-5 (BASICS OF AERIAL PHOTOGRAPHY, PHOTOGRAMMETRY, DEM AND ORTHO IMAGE GENERATION) Aerial Photography -Film, Focal Length, Scale
	5th	Types of Aerial Photographs (Oblique, Straight)
8th	1st	Types of Aerial Photographs (Oblique, Straight)
	2nd	Types of Aerial Photographs (Oblique, Straight)
	3rd	Photogrammetry -Classification of Photogrammetry
	4th	Aerial Photogrammetry
	5th	Terrestrial Photogrammetry
9th	1st	Photogrammetry Process Acquisition of Imagery using aerial and satellite platform
	2nd	Control Survey
	3rd	Geometric Distortion in Imagery-Stereoscopic Measurement X-parallax & Y-parallax
	4th	DTM/DEM Generation
	5th	Ortho Image Generation
10th	1st	CHAPTER-6(MODERN SURVEYING METHODS) Principles, features and use of (i) Micro-optic theodolite, digital theodolite
	2nd	Principles, features and use of (i) Micro-optic theodolite, digital theodolite
	3rd	Working principles of a Total Station
	4th	Working principles of a Total Station
	5th	Working principles of a Total Station
11th	1st	Working principles of a Total Station
	2nd	Total Station position using trigonometry and triangulation
	3rd	Total Station position using trigonometry and triangulation
	4th	Total Station position using trigonometry and triangulation
	5th	Total Station position using trigonometry and triangulation

12th	1st	CHAPTER-7(BASICS ON GPS & DGPS AND ETS) GPS: - Global Positioning Working Principle of GPS,GPS Signals
	2nd	Errors of GPS,Positioning Methods
	3rd	DGPS: - Differential Global Positioning System Base Station Setup & Rover GPS Set up
	4th	Download, Post-Process and Export GPS data & Sequence to download GPS data from flashcards
	5th	Sequence to Post-Process GPS data & Sequence to export post process GPS data
13th	1st	Sequence to export GPS Time tags to file
	2nd	ETS: - Electronic Total Station:- Distance Measurement & Angle Measurement
	3rd	Leveling & Determining position
	4th	Reference networks
	5th	Errors and Accuracy
14th	1st	CHAPTER-8(BASICS OF GIS AND MAP PREPARATION USING GIS) Components of GIS, Integration of Spatial and Attribute Information
	2nd	Three Views of Information System-Database or Table View, Map View and Model View
	3rd	Spatial Data Mode
	4th	Attribute Data Management and Metadata Concept
	5th	Prepare data and adding to Arc Map
15th	1st	Organizing data as layers & Editing the layers
	2nd	Switching to Layout View
	3rd	Change page orientation & Removing Borders
	4th	Adding and editing map information
	5th	Finalize the map

Discipline-Civil Engineering	Semestar- 6th	Name Of the teaching Faculty:- Er. Rakesh Ku. Panda
Subject-CADD Lab and Design & Detailing Practice	No. of Days/per week class allotted:5	Semestar From Date : 14/2/2023 To Date:23/5/2023
Week	Class Day	Theory/Practical Topics
1st	1st	CHAPTER-1(Structural Detailing Practice) Drawing Slab, beam and lintel with chajja as in a simple building
	2nd	
	3rd	
2nd	1st	Columns, column-beam connections with & without splicing, isolated footing, staircase
	2nd	
	3rd	
3rd	1st	Columns, column-beam connections with & without splicing, isolated footing, staircase
	2nd	
	3rd	
4th	1st	Different types of bolt connections, welded connections
	2nd	
	3rd	
5th	1st	Details of Pile and Pile cap
	2nd	
	3rd	
6th	1st	CHAPTER-2(Structural Detailing Practice) Introduction
	2nd	
	3rd	
7th	1st	2-D Modelling of structures, Use of Structure wizard, Geometry, Property, Support, Loads and combinations, Analysis
	2nd	
	3rd	
8th	1st	Analysis of a Continuous beam with more than two span subjected to udl and point load
	2nd	
	3rd	
9th	1st	3-D modeling of building structures ,dead load, live load, earthquake and wind load analysis, design of a 3 storeyed building and preparation of reinforcement drawing and
	2nd	
	3rd	
10th	1st	Introduction to STADD foundation
	2nd	
	3rd	
11th	1st	CHAPTER-3(Revit Architecture Software) Basics- Modify, Wall, Door, Window, Component Room, Roof, Floor, Grid, Lines, Dimension, Section, Level, Text, View
	2nd	
	3rd	
12th	1st	Modelling- Ramp, Railing, Stair
	2nd	
	3rd	
13th	1st	Align, Split, Trim, offset, Match type, Line work, Paint, Scale, Unit
	2nd	
	3rd	
14th	1st	3D View
	2nd	
	3rd	
15th	1st	Preparation of approval drawing of a double storied residential building from given specifications with its 3D view using above commands
	2nd	
	3rd	