

LESSON PLAN OF 6th SEMESTER CIVIL ENGINEERING

Discipline :- CIVIL	Semester:- 6 th	Name of the Teaching Faculty:- Mr.TAPAS RANJAN MISRA
Subject:- LAND SURVEY-II	No of Days/per Week Class Allotted :- 05	Semester From:- <u>16.01.2024</u> To:- <u>26.04.2024</u> No of Weeks:- 15
Week	Class Day	Theory Topics
1 st	1 st	Introduction to Tacheometry
	2 nd	Principles, stadia constants determination .
	3 rd	Stadia tacheometry with staff held vertical and with line of collimation horizontal
	4 th	Stadia tacheometry with staff held vertical and with line of collimation inclined
	5 th	Numerical problems
2 nd	1 st	Elevations and distances of staff stations
	2 nd	Numerical problems
	3 rd	Introduction to Curve compound, reverse and transition curve
	4 th	Purpose & use of different types of curves in field
	5 th	Elements of circular curves
3 rd	1 st	Numerical problems on circular curve
	2 nd	Preparation of curve table for setting out
	3 rd	Setting out of circular curve by chain and tape and by instrument angular methods (i) offsets from long chord, (ii) successive bisection of arc,
	4 th	Setting out of circular curve by chain and tape and by instrument angular methods (iii) offsets from tangents, (iv) offsets from chord produced, (v) Rankine's method of tangent angles
	5 th	Obstacles in curve ranging – point of intersection inaccessible
4 th	1 st	Beam & column, lapping, anchorage
	2 nd	Effective span for beam & slab.
	3 rd	Introduction to Map Fractional or Ratio Scale, Linear Scale, Graphical Scale
	4 th	About Map, Map Scale and Map Projections
	5 th	About Maps Convey Location and Extent
5 th	1 st	About Maps Convey characteristics of features
	2 nd	About Maps Convey Spatial Relationship
	3 rd	Classification of Maps 1 Physical Map 2 Topographic Map
	4 th	3 Road Map 4 Political Map 5 Economic & Resources Map
	5 th	Digital learning of different Maps by using smart class
6 th	1 st	Introduction to Survey of India Map series.
	2 nd	Open Series map

	3 rd	Defense Series Map
	4 th	Map Nomenclature Quadrangle Name
	5 th	Moment of resistance of the rectangular section.
7 th	1 st	Latitude, Longitude, UTM's
	2 nd	Contour Lines
	3 rd	Magnetic Declination
	4 th	Public Land Survey System
	5 th	Field Notes
8 th	1 st	Introduction to Arial Photography , Film, Focal Length, Scale
	2 nd	Types of Aerial Photographs (Oblique, Straight)
	3 rd	Introduction to Photogrammetry: Classification of Photogrammetry
	4 th	Aerial Photogrammetry
	5 th	Terrestrial Photogrammetry ;
9 th	1 st	Photogrammetry Process: Acquisition of Imagery using aerial and satellite platform
	2 nd	Control Survey.
	3 rd	Geometric Distortion in Imagery Application of Imagery and its support data Orientation and Triangulation
	4 th	Stereoscopic Measurement X-parallax Y-parallax
	5 th	DTM/DEM Generation Ortho Image Generation
10 th	1 st	Introduction to Modern surveying Method
	2 nd	Principles, features and use of Micro-optic theodolite
	3 rd	Principles, features and use of Digital Theodolite
	4 th	Working principles of a Total Station
	5 th	Set up and use of total station
11 th	1 st	Angle measurement by using total station.
	2 nd	Distance measurement by using total station.
	3 rd	the co-ordinates (X,Y & Z or northing, easting, and elevation) of surveyed points relative to Total Station position using trigonometry
	4 th	Triangulation by using Total station
	5 th	Field Demonstration of Total station
12 th	1 st	Introduction to GPS Working Principle of GPS,GPS Signals
	2 nd	Errors of GPS, Positioning Methods
	3 rd	Introduction to DGPS Base Station Setup Rover GPS Set up
	4 th	Download, Post-Process and Export GPS data
	5 th	Sequence to download GPS data from flashcards Sequence to Post-Process GPS data
13 th	1 st	Sequence to export post process GPS data Sequence to export GPS Time tags to file
	2 nd	Introduction to ETS

	3 rd	Distance Measurement and Angle Measurement by ETS
	4 th	Leveling and Determining position by ETS
	5 th	Reference networks Errors and Accuracy
14 th	1 st	Introduction to GIS Components of GIS, Integration of Spatial and Attribute Information
	2 nd	Three Views of Information System Database or Table View, Map View and Model View
	3 rd	Spatial Data Model Attribute Data Management and Metadata Concept
	4 th	Prepare data and adding to Arc Map.
	5 th	Organizing data as layers. Editing the layers.
15 th	1 st	Switching to Layout View Change page orientation.
	2 nd	Removing Borders.
	3 rd	Removing Borders.
	4 th	Adding and editing map information.
	5 th	Finalize the map
16 th	1 st	DOUBT CLEARING CLASS AND REVISION & PREVIOUS FIVE YEARS QUESTION ANSWER DISCUSSION
	2 nd	
	3 rd	
	4 th	
	5 th	

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16/01/2024

LESSON PLAN OF 6th SEMESTER CIVIL ENGINEERING

Discipline;Civil Engg.	Semester; 6th	Name of The Teaching Faculty:- CHINMAYEE SUNANI
Subject; CONSTRUCTION MANAGEMENT	No. of days/per week class allotted ; 04	Semester From . Date; 16.01.2024To Date ; 26.04.2024 No of Weeks : 15
Week	Class Day	Theory/Practical Topics
1st	1st	1.0:NTRODUCTION TO CONSTRUCTION MANAGEMENT 1.1; Aims and objectives of construction management.
	2nd	1.2; Functions of construction management.
	3rd	1.3; The construction team components- Owner ,Engineer, Architect, Contractor –their functions and interrelationship and jurisdiction.
	4th	1.4:Resources for construction management – men, machines, money
2nd	1st	2.0: Constructional Planning 2.1: Importance of construction planning.
	2nd	2.2:Developing work breakdown structure for construction work.
	3rd	2.3: Construction planning stages-pre tender stage, post –tender stage.
	4th	2.4: Construction scheduling by Bar charts-preparation of Bar charts for simple construction work.
3rd	1st	2.5: Preparation of schedules for labour materials, machinery, finance for small works.
	2nd	2.6: Limitation of Bar charts.
	3rd	2.7: Construction scheduling by network techniques-definition of terms, PERT and CPM techniques, advantages and disadvantages of two techniques, network analysis, estimation of time and critical path, application of PERT and CPM techniques in sample construction works.
	4th	3.0: Materials and stores Management 3.1: Classification of stores- Storage of stock
4th	1st	Storage of stock
	2nd	3.2: Issue of materials –Indent ,Invoice ,Bin card
	3rd	Issue of materials –Indent ,Invoice ,Bin card
	4th	4.0: Construction site Management: 4.1: Job lay out-objectives, Review plans, specifications
5th	1st	lay out of equipments
	2nd	4.2: Location of equipment, organizing labour at site.
	3rd	4.3: Job lay out for different construction site,
	4th	4.4: Principles of storing material at site,

6th	1st	5.0: Construction Organization: 5.1: Introduction – Characteristics, Structure, importance,
	2nd	5.2: Organization types – line and staff, functions and their characteristics
	3rd	5.3: Principles of Organization – Meaning and significance of terms-control, authority, responsibility, job & task.
	4th	5.4: Leadership- necessity, styles of leadership, role of leader.
7th	1st	5.6: Human relations – relations with subordinate, peers, supervisors, characteristics of group behavior, mob psychology, handling of grievances, absenteeism, labour welfare.
	2nd	5.7: Conflicts in organization – genesis of conflicts, types- intrapersonal, intergroup, resolving conflicts.
	3rd	6.0: Construction Labour and Labour Management: 6.1: Preparing labour schedule
	4th	6.2: Essential steps for optimum labour output.
8th	1st	6.3: Labour characteristics
	2nd	6.4: Wages & their payment
	3rd	6.5: Labour incentives
	4th	6.6: Motivation – Classification of motives, different approaches to motivation.
9th	1st	7.0: Equipment Management 7.1: Preparing the equipment schedule.
	2nd	7.2: Identification of different alternative equipment.
	3rd	7.3: Importance of Owning & operating costs in making decisions for hiring & purchase of equipment.
	4th	7.4: Inspection and testing of equipment.
10th	1st	7.5; Equipment maintenance and minor repairs
	2nd	Equipment maintenance and minor repairs
	3rd	8.0: Quality Control:
	4th	8.1: Concept of quality in construction .
11th	1st	8.2: Quality Standards – during construction ,after construction
	2nd	8.2: Quality Standards – during construction ,after construction
	3rd	destructive & non destructive methods.
	4th	9.0: Monitoring Progress:
12th	1st	9.1: Programme and progress of work.
	2nd	9.2: Work study
	3rd	9.2: Work study
	4th	9.3: Analysis and control of physical and financial progress corrective measures.
13th	1st	9.3: Analysis and control of physical and financial progress corrective measures.
	2nd	10..0: Safety Management In Construction: 10.1: Importance of safety
	3rd	10.2: Causes and effects of accidents in construction works
	4th	10.3: Safety measures in worksites for excavation, scaffolding, formwork, fabrication and erection, demolition.

14th	1st	10.4: Development of safety consciousness
	2nd	10.5: Safety legislation – Workman's compensation act, contract labour act.
	3rd	11.Role of Vulnerability Atlas of India in construction projects 11.1 Introduction to Vulnerability Atlas of India, Concepts of natural hazards and disasters and vulnerability profile of India. Definition of disaster related terms
	4th	11.2 Earthquake hazard and vulnerability, Magnitude and intensity scales of earthquake, seismic zones, earthquake hazard maps, types of structures and damage classification, effects in housing and resistant measures.
15th	1st	11.3 Wind / Cyclone hazard and vulnerability, wind speed and pressures, wind hazard and cyclone occurrence maps, storm surveys and cyclone resistant measures
	2nd	11.4 Flood hazard and vulnerability, Flood hazard and Flood prone areas of the country, General protection of habitants and flood resistant construction
	3rd	11.5 Landslides, Tsunamis and Thunderstorm hazards and vulnerability, Landslide & Thunderstorm incidence maps, Measures against Tsunami hazards.
	4th	11.6 Housing vulnerability risk tables and usage of vulnerability atlas of India, Inclusion of vulnerability atlas in Tender documents

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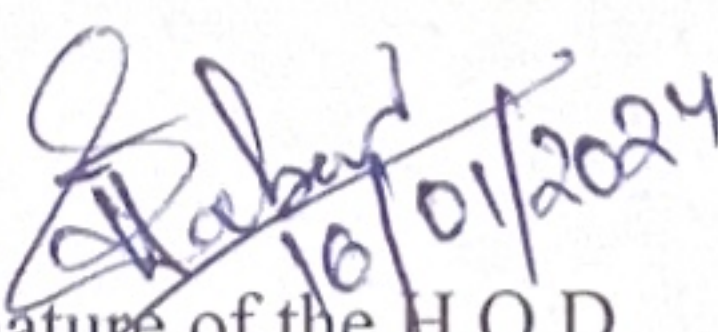
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LESSON PLAN OF 6th SEMESTER CIVIL ENGINEERING

Discipline :- CIVIL	Semester:- 6 th	Name of the Teaching Faculty:- Jyotirmayee Sabar, Sr. Lect.
Subject:- ACT&E	No of Days/per Week Class Allotted :- 04	Semester From:- <u>16.01.2024 to 24.04.2024</u> No of Weeks:- 15
Week	Class Day	Theory Topics
1 st	1 st	Fibers and Plastics- Types of fibers- Steel, Carbon, glass fibers
	2 nd	Use of fibers as construction material, properties of Fibers
	3 rd	Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets
	4 th	Use of plastic as construction material.
2 nd	1 st	Artificial Timbers – Properties and uses of artificial timber
	2 nd	Types of artificial timber available in market
	3 rd	Strength of artificial timber.
	4 th	Miscellaneous materials – Properties and uses of acoustics materials
3 rd	1 st	Wall claddings, plaster boards, micro-silica
	2 nd	Artificial sand, bonding agents, adhesives
	3 rd	Prefabrication Introduction, necessity and scope of prefabrication of buildings
	4 th	History of prefabrication, current uses of prefabrication
4 th	1 st	Types of prefabricated systems, classification of prefabrication
	2 nd	Advantages and disadvantages of prefabrication,
	3 rd	The theory and process of prefabrication
	4 th	Design principle of prefabricated systems, types of prefabricated elements
5 th	1 st	modular coordination
	2 nd	Indian standard recommendation for modular planning
	3 rd	Earthquake Resistant Construction Building Configuration
	4 th	Lateral Load resisting structures
6 th	1 st	Building characteristics
	2 nd	Effect of structural irregularities-vertical irregularities
	3 rd	plan configuration problems
	4 th	Safety consideration during additional construction and alteration of existing Buildings.
7 th	1 st	Additional strengthening measures in masonry building-corner reinforcement, lintel band
	2 nd	Sill band, plinth band, roof band, gable band
	3 rd	Retrofitting of Structures Seismic retrofitting of reinforced concrete buildings
	4 th	Seismic retrofitting of reinforced concrete buildings
8 th	1 st	Seismic retrofitting of reinforced concrete buildings
	2 nd	Seismic retrofitting of reinforced concrete buildings
	3 rd	Sources of weakness in RC frame building
	4 th	Sources of weakness in RC frame building

9 th	1 st	Sources of weakness in RC frame building
	2 nd	Classification of retrofitting techniques and their uses
	3 rd	Classification of retrofitting techniques and their uses
	4 th	Building Services Cold Water Distribution in high rise building, lay out of installation
10 th	1 st	Hot water supply – General principles for central plants-layout
	2 nd	Sanitation –soil and waste water installation in high rise buildings
	3 rd	Electrical services – i) requirements in high rise buildings ii) Layout of wiring - types of wiring
	4 th	Fuses and their types , Earthing and their uses
11 th	1 st	Lighting – Requirement of lighting, Measurement of light intensity
	2 nd	Ventilation - Methods of ventilation (Natural and artificial Systems of ventilation) problems on ventilation
	3 rd	Mechanical Services- Lifts, Escalator, Elevators – types and uses.
	4 th	Construction and earth moving equipments Planning and selection of construction equipments
12 th	1 st	Planning and selection of construction equipments
	2 nd	Study on earth moving equipments like drag line, tractor
	3 rd	bulldozer, Power shovel
	4 th	Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers
13 th	1 st	Smooth wheel rollers
	2 nd	Pneumatic tired rollers
	3 rd	vibrating compactors
	4 th	Owning and operating cost – problems
14 th	1 st	Owning and operating cost – problems
	2 nd	Soil reinforcing techniques Necessity of soil reinforcing
	3 rd	Use wire mesh and geo-synthetics.
	4 th	Use wire mesh and geo-synthetics.
15 th	1 st	Strengthening of embankments
	2 nd	Slope stabilization in cutting and embankments by soil reinforcing techniques.
	3 rd	Slope stabilization in cutting and embankments by soil reinforcing techniques.
	4 th	Slope stabilization in cutting and embankments by soil reinforcing techniques.


 Signature of the concerned Lecturer


 Signature of the H.O.D

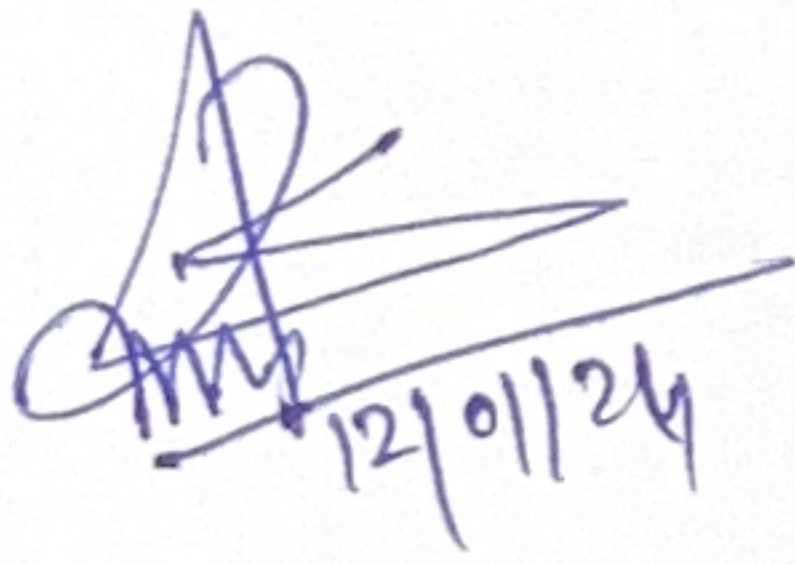

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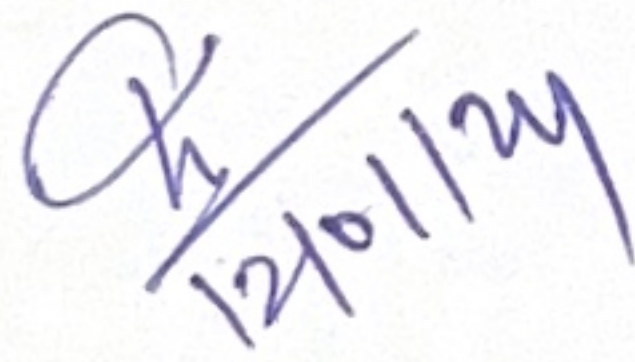
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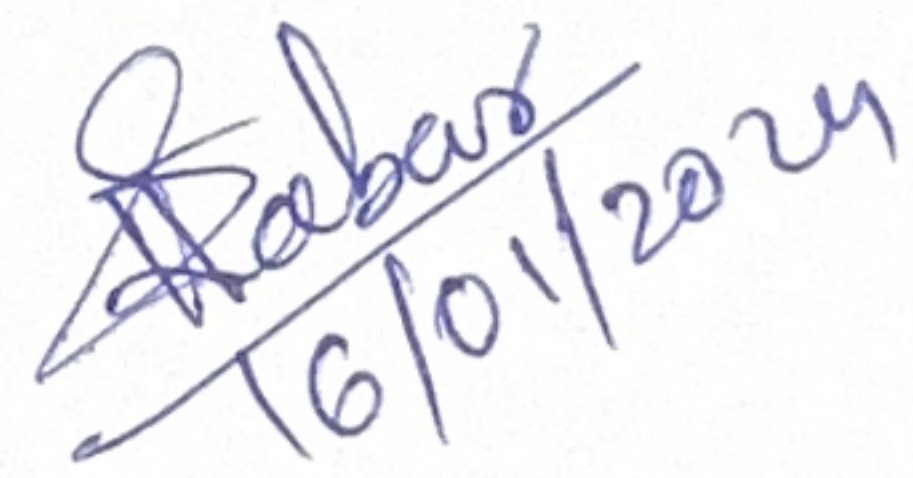
Discipline; Civil Engg.	Semester; 6th	Name of The Teaching Faculty:- Sri Tapas Ku. Mallick , Sri Swayan Ranjan Misra
Subject; CONCRETE TECHNOLOGY	No. of days/per week class allotted ; 04	Semester From . Date; 16.01.2024 To Date ; 26.04.2024 No of Weeks : 15
Week	Class Day	Theory/Practical Topics
1st	1st	Concrete as a construction material: Grades of concrete
	2nd	Advantages and disadvantages of concrete
	3rd	Cement Composition, hydration of cement
	4th	water cement ratio and compressive strength
2nd	1st	fineness of cement, setting time of cement
	2nd	soundness of cement , types of cement
	3rd	Classification and characteristics of aggregate
	4th	fineness modulus, grading of aggregate as per I.S.383
3rd	1st	Quality of water for mixing and curing.
	2nd	Important functions, classification of admixtures I.S 9103
	3rd	accelerating admixtures, retarding admixtures,
	4th	water reducing admixtures, air containing admixtures
4th	1st	Concept of fresh concrete, workability of concrete
	2nd	slump test of concrete
	3rd	compacting factor test of concrete
	4th	V-bee consistency test of concrete
5th	1st	flow test of concrete
	2nd	requirement of workability as per I.S.1199.
	3rd	Cube and cylinder compressive strengths of Hardened Concrete
	4th	flexural strength of concrete

6th	1 st	stress-strain and elasticity
	2 nd	phenomena of creep and shrinkage
	3 rd	permeability, durability of concrete
	4 th	sulphate, chloride on concrete
7th	1 st	acid attack on concrete , efflorescence of Concrete
	2 nd	Introduction and Data or input required for mix design.
	3 rd	Nominal mix concrete & design mix concrete
	4 th	Basic consideration for concrete mix design
8th	1 st	Methods of proportioning concrete mix – I.S Code method of mix design(I.S.10262)
	2 nd	Methods of proportioning concrete mix – I.S Code method of mix design(I.S.10262)
	3 rd	Batching of materials, mixing of concrete materials,
	4 th	transportation, placing of concrete
9th	1 st	compaction of concrete (vibrators)
	2 nd	Curing of concrete,
	3 rd	Formwork-requirements and types
	4 th	stripping of forms. (Concepts only)
10th	1 st	Quality control of Concrete as per I.S.456
	2 nd	Factors causing the variations in the quality of concrete
	3 rd	Mixing, Transporting of Concrete as per I.S.456.
	4 th	Placing & curing requirements of Concrete as per I.S.456.
11th	1 st	Inspection and Testing as per Clause 17 of IS:456.
	2 nd	Durability requirements of Concrete as per I.S:456
	3 rd	Introduction to ready mix concrete
	4 th	high performance concrete
12th	1 st	silica fume concrete
	2 nd	shot-crete concrete or gunitting (Concepts only)
	3 rd	Types of deterioration,
	4 th	Types of deterioration,
13th	1 st	prevention of concrete deterioration
	2 nd	prevention of concrete deterioration
	3 rd	corrosion of reinforcement
	4 th	effects and prevention

14th	1st	Symptom, cause of defects during construction,
	2nd	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.


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