ASIAN SCHOOL OF TECHNOLOGY, KHORDHA

ACADEMIC LESSON PLAN (SUMMER-2026)

TH : 1 Land Survey-II

Discipline: Civil Engineering	Semester : 6th	No. of periods available: 52	Name of Teaching Faculty: Swatishree Lenka
Subject: TH-1 Land Survey- II	No. of Days/ per week class allotted : 4 periods per week		Semester From : 5th January 2026 to 18th April 2026 No. of weeks : 13
Week	Class Day		Topics to be covered
1st	1st	1	Principles, stadia constants determination
	2nd	1	Stadia tacheometry with staff held vertical and with line of collimation horizontal or inclined
	3rd	1	numerical problems
	4th	1	Elevations and distances of staff stations
2nd	5th	1	numerical problems
	6th	1	compound, reverse and transition curve
	7th	1	Purpose & use of different types of curves in field
	8th	1	Elements of circular curves, numerical problems
3rd	9th	1	Preparation of curve table for setting out
	10th	1	Setting out of circular curve by chain and tape and by instrument angular methods (i) offsets from long chord
	11th	1	(ii) successive bisection of arc, (iii) offsets from tangents, (iv) offsets from chord produced
	12th	1	(v) Rankine's method of tangent angles
4th	13th	1	Obstacles in curve ranging – point of intersection inaccessible

	14th	1	Quiz Test and Discussion
	15th	1	basics on scale and basics of map
	16th	1	Fractional or Ratio Scale, Linear Scale, Graphical Scale
5th	17th	1	What is Map, Map Scale and Map Projections
	18th	1	Maps Convey Location and Extent
	19th	1	Maps Convey characteristics of features
	20th	1	Maps Convey Spatial Relationship
6th	21st	1	Classification of Maps
	22nd	1	Physical Map, Topographic Map, Road Map
	23rd	1	Political Map, Economic & Resources Map, Thematic Map, Climate Map
	24th	1	INDIA MAP SERIES- Open Series map
7th	25th	1	Defense Series Map
	26th	1	Map Nomenclature
	27th	1	Quadrangle Name, Latitude, Longitude, UTM's ,Contour Lines
	28th	1	Magnetic Declination, Public Land Survey System , Field Notes
8th	29th	1	Aerial Photography
	30th	1	Film, Focal Length, Scale , Types of Aerial Photographs (Oblique, Straight)
	31st	1	Photogrammetry
	32nd	1	Classification of Photogrammetry, Aerial
			Photogrammetry ,Terrestrial Photogrammetry
9th	33rd	1	Photogrammetry Process

	34th	1	Acquisition of Imagery using aerial and satellite platform , Control Survey
	35th	1	Geometric Distortion in Imagery Application of Imagery and its support data
	36th	1	Orientation and Triangulation ,Stereoscopic Measurement
10th	37th	1	DTM/DEM Generation , Ortho Image Generation
	38th	1	Modern Surveying Methods-
	39th	1	Principles, features and use of (i) Micro-optic theodolite, digital theodolite
	40	1	Working principles of a Total Station of surveyed points relative to Total Station position using trigonometry and triangulation.
11th	41st	1	Basics of GPS, DGPS and ETS
	42nd	1	GPS: - Global Positioning Working Principle of GPS,GPS Signals,
	43rd	1	Previous Year Question Discussion
	44th	1	Errors of GPS, Positioning Methods DGPS: - Differential Global Positioning System
12th	45th	1	Base Station Setup- Rover GPS Set up, Download, Post-

			Process and Export GPS data
	46th	1	Sequence to download GPS data from flashcards Sequence to Post- Process GPS data
	47th	1	Sequence to export post process GPS data Sequence to export GPS Time tags to file
	48th	1	ETS: - Electronic Total Station Distance Measurement Angle Measurement , Levelling Determining position, Reference networks Errors and Accuracy
13th	49th	1	basics of gis and map preparation using gis Components of GIS Integration of Spatial Attribute Information
	50th	1	Three Views of Information System Database or Table View, Map View and Model View Spatial Data Model
	51st	1	Attribute Data Management and Metadata Concept
	52nd	1	Prepare data and adding to Arc Map Organizing data as layers Editing the layers. Switching to Layout View Change page orientation. Removing Borders. Adding and editing map information. Finalize the map

Swatishree Lenka.

Signature of Teaching Faculty

ASIAN SCHOOL OF TECHNOLOGY, KHORDHA

ACADEMIC LESSON PLAN (SUMMER-2026)

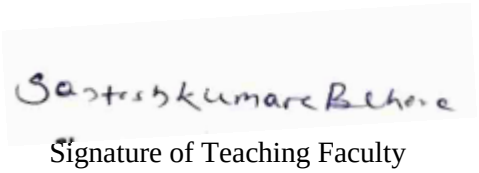
TH : 2 Construction Management

Discipline: Civil Engineering	Semester : 6th	No. of periods available: 52	Name of Teaching Faculty: Santosh Kumar Behera
Subject: TH-2 Construction Management	No. of Days/ per week class allotted : 4 periods per week		Semester From : 5th January 2026 to 18th April 2026 No. of weeks : 13
Week	Class Day		Topics to be covered
1st	1st	1	Objectives, functions of construction management and construction team
	2nd	1	Resources for Construction management-men, machines, materials, money
	3rd	1	Importance of construction planning, developing work breakdown structure
	4th	1	Construction planning stages-pre-tender stage, post-tender stage
2nd	5th	1	Doubt clearing class
	6th	1	Scheduling by bar charts-preparation of bar charts and limitation of bar charts
	7th	1	Estimation of time and critical path, application of PERT and CPM
	8th	1	Doubt clearing class
3rd	9th	1	Organization types-line and staff, functions
	10th	1	Line and staff characteristics
	11th	1	Principles of organization-meaning
	12th	1	Significances of terms-control,

			authority, responsibility, job, Task, Leadership- necessity, style and role
4th	13th	1	Principle of effective supervision
	14th	1	Motivation- classification 0f motives
	15th	1	Different approaches of motives
	16th	1	Human relations with subordinates, peer, characteristics of group behaviour
5th	17th	1	Workshop done for students group behaviour development
	18th	1	Handling of grievances, absenteeism, labour welfare
	19th	1	Conflicts in organization
	20th	1	Morale
6th	21st	1	Factors influencing selection, design and layout of temporary facilities
	22nd	1	Class test-1
	23rd	1	Services at construction site
	24th	1	Doubt clearing class
7th	25th	1	Principles of storing material at site
	26th	1	Location of equipment organizing labour at site
	27th	1	Concept of Quality control
	28th	1	Concept of quality in construction
8th	29th	1	Quality standard- during construction after construction
	30th	1	Destructive and non destructive method
	31st	1	Preparing labour schedule, steps for optimum labour output

	32nd	1	Group discussion quality of construction
9th	33rd	1	Labour characteristics
	34th	1	Wages and their payment
	35th	1	Labour incentives
	36th	1	Relevant labour laws and case studies
10th	37th	1	Group discussion among students labour laws and case studies
	38th	1	Programme and progress of work Work study Importance of safety Causes and effects of accidents in construction works
	39th	1	Safety measures in worksites for excavation, scaffolding, formwork
	40	1	Quiz
11th	41st	1	Fabrication, erection, demolition
	42nd	1	Safety legislation- workman's compensation act, contract labour
	43rd	1	Group discussion about safety legislation
	44th	1	Preparing equipment schedule
12th	45th	1	Identification of different alternative equipment
	46th	1	Importance of owning and operating costs in making decisions for purchase of equipment
	47th	1	Group discussion equipment schedule, inspection and testing of equipment
	48th	1	Job layout for different construction sites, equipment maintenance and

			minor repairs
13th	49th	1	Classification of stores-storage of stock
	50th	1	Issue of materials- indent, in voice, bincard
	51st	1	Stores accounting process
	52nd	1	Group discussion on stores accounting process



Signature of Teaching Faculty

ASIAN SCHOOL OF TECHNOLOGY, KHORDHA

ACADEMIC LESSON PLAN (SUMMER-2026)

TH : 3 Advanced Construction Techniques and Equipment

Discipline: Civil Engineering	Semester : 6th	No. of periods available: 53	Name of Teaching Faculty: Bisnupriya Jena
Subject: TH-3 Advanced Construction Techniques and Equipment	No. of Days/ per week class allotted : 4 periods per week		Semester From : 5th January 2026 to 18th April 2026 No. of weeks : 13
Week	Class Day		Topics to be covered
1st	1st	1	Introduction, Building Configuration,
	2nd	1	Building characteristics
	3rd	1	Lateral Load resisting structure
	4th	1	Effect of structural irregularities-vertical irregularities,
2nd	5th	1	plan configuration problems
	6th	1	Additional strengthening measures in masonry building
	7th	1	lintel band, sill band, plinth band, roof band, gable band etc.
	8th	1	lintel band, sill band,plinth band,roof band,gable band,repeat and description
3rd	9th	1	Seismic retrofitting of reinforced concrete buildings
	10th	1	Sources of weakness in RC frame building
	11th	1	Classification of retrofitting techniques and their uses
	12th	1	Classification of retrofitting techniques and their description
4th	13th	1	Cold Water
			Distribution in high rise building,
	14th	1	lay out of installation and types

	15th	1	Hot water supply – General principles for central plants-layout
	16th	1	Class test
5th	17th	1	Sanitation in high rise buildings
	18th	1	soil and waste water installation in high rise buildings
	19th	1	Electrical services – i) requirements in high rise buildings
	20th	1	ii) Layout of wiring - types of wiring iii) Fuses and their types
6th	21st	1	iv)Earthing and their uses
	22nd	1	Lighting – Requirement of lighting, Measurement of Light intensity
	23rd	1	Ventilation (i) Methods of ventilation
	24th	1	ii) Systems of ventilation,
7th	25th	1	Mechanical Services- Lifts, Escalator, Elevators – types and uses
	26th	1	Types of fibers, steel carbon and glass.
	27th	1	Uses of fibers as construction materials
	28th	1	Properties of fibers. Types of plastics PVC, RPVC, HDPE,
8th	29th	1	FRP, GRP etc. Colored plastic sheets and uses
	30th	1	Artificial timbers- properties and uses
	31st	1	Types and strength of artificial timbers
	32nd	1	Miscellaneous materials
9th	33rd	1	properties and uses of acoustic materials
	34th	1	Wall cladding, plaster
			boards,
	35th	1	micro silica, artificial sand
	36th	1	Bonding agents as construction materials
10th	37th	1	adhesives as construction materials

	38th	1	Introduction and scope of prefabrication in building
	39th	1	history of prefabrication, current uses of prefabrication
	40	1	Theory and process of prefabrication
11th	41st	1	types of prefabricated systems, classification of prefabrication,
	42nd	1	advantages and disadvantages of prefabrication
	43rd	1	design principle of prefabricated systems
	44th	1	types of prefabricated elements,
12th	45th	1	modular coordination Indian standard recommendation for modular planning
	46th	1	Revision and Practice
	47th	1	Class Test
	48th	1	Planning and selection of Construction equipment
13th	49th	1	Study on earth moving equipment: drag line
	50th	1	Study on earth moving equipment: tractor
	51st	1	Study on earth moving equipment: bulldozer
	52nd	1	Study on earth moving equipment: power shovel, Study and uses of compacting equipment like tamping rollers wheel rollers Pneumatic tired rollers vibrating compactors Owning and operating cost
	53rd	1	Necessity of soil reinforcing, Use wire mesh and geo- synthetics. Slope stabilization in cutting and embankments by Soil reinforcing techniques.

Signature of Teaching Faculty

ASIAN SCHOOL OF TECHNOLOGY, KHORDHA

ACADEMIC LESSON PLAN (SUMMER-2026)

TH : 4 Concrete Technology

Discipline: Civil Engineering	Semester : 6th	No. of periods available: 60	Name of Teaching Faculty: Ankita Rath
Subject: TH-4 Concret Technology	No. of Days/ per week class allotted : 4 periods per week		No. of weeks : 15
Week	Class Day		Topics to be covered
1st	1st	1	Concrete as a construction material – definition, uses
	2nd	1	Grades of concrete (IS classification)
	3rd	1	Advantages & disadvantages of concrete
	4th	1	Doubt clearing + recap
2nd	5th	1	Cement – composition, hydration of cement
	6th	1	Water–cement ratio & its significance
	7th	1	Fineness of cement & testing
	8th	1	Setting time & soundness tests
3rd	9th	1	Compressive strength of cement
	10th		Types of cement (OPC, PPC, PSC, special cements)
	11th	1	Uses & properties of different cements
	12th	1	Class Test – Unit 1 & 2 + doubt clearing
4th	13th	1	Classification of aggregates
	14th	1	Properties of aggregates (size, shape, texture)
	15th	1	Tests on aggregates (IS 2386 – Part I)
	16th	1	Grading of aggregates & importance
5th	17th	1	Moisture content,

			bulking of sand
	18th	1	Aggregate tests (Part II, III & IV – IS 2386)
	19th	1	Admixtures – introduction & need
	20th	1	Types of admixtures (plasticizers, retarders, accelerators)
6th	21st	1	Water-reducing, air- entraining admixtures
	22nd	1	Fresh concrete – concept & workability
	23rd	1	Slump test, compaction factor test
	24th	1	Vee-Bee consistency test + doubt clearing
7th	25th	1	Strength of hardened concrete
	26th	1	Stress–strain relationship
	27th	1	Creep & shrinkage
	28th	1	Class Test – Aggregates & Fresh Concrete
8th	29th	1	Permeability & durability
	30th	1	Sulphate attack & chloride attack
	31st	1	Acid attack & corrosion of reinforcement
	32nd	1	Doubt clearing + numerical discussion
9th	33rd	1	Concept of mix design
	34th	1	Data required for mix design
	35th	1	IS 10262 method – theory
	36th	1	Numerical problems (step-by-step)
10th	37th	1	Mixed design examples (IS method)
	38th	1	Batching of concrete (volume & weight batching)
	39th	1	Mixing of concrete (manual & machine)
	40	1	Transportation of concrete
11th	41st	1	Placing of concrete & precautions
	42nd	1	Compaction –

			methods & equipment
	43rd	1	Curing – methods & importance
	44th	1	Class Test – Mix Design & Production
12th	45th	1	Formwork – requirements & types
	46th	1	Stripping time of formwork
	47th	1	Quality control of concrete (IS 456)
	48th	1	Acceptance criteria & cube testing
13th	49th	1	High-performance concrete
	50th	1	Self-compacting concrete
	51st	1	Fibre-reinforced concrete
	52nd	1	Shotcrete & lightweight concrete
14th	53rd	1	Deterioration of concrete – causes
	54th	1	Corrosion of reinforcement
	55th	1	Prevention techniques
	56th	1	Class Test – Special Concretes & Durability
15th	57th	1	Construction defects & cracking
	58th	1	Repair materials & methods
	59th	1	Polymer-based repairs & epoxy repairs
	60th	1	Final doubt clearing + full syllabus revision

Ankita Rath

Signature of Teaching Faculty