



LESSON PLAN : TH.4-B) Construction Management, SESSION -2025-2026 (SUMMER 2026) BATCH-2024-2027 (4th Semester)		
Discipline: civil engineering	Semester: 4th	Name of the Teaching Faculty: Sweet Revelen Pradhan (GF in civil Engg.)
Subject: TH.4-B) Construction Management	No. of days/ per week class allotted: 3	Semester From Date : 22-12-2025 to Date: 18-04-2026 No. of Weeks: 15
Week	Class Day	Theory/ Practical Topics
UNIT –I Construction industry and management		
1ST	1	Introduction to Construction Industry-Understand the construction industry, its scope and importance
	2	Organization in Construction Industry: Learn objectives and principles of organization in construction projects
	3	Types of Organization: Government/Public vs Private Construction Industry- Differentiate between public and private construction organizations
2ND	1	Roles of Personnel in Construction Organization-Identify roles and responsibilities of various personnel in construction projects
	2	Agencies Associated with Construction Work: Owner, Promoter, Builder, Designer, Architect-Understand the roles of different agencies in a construction project
	3	Role of Consultant: DPR Preparation, Monitoring Progress & Quality, Settlement of Disputes-Learn how consultants contribute to project planning, supervision, and dispute resolution
UNIT –II Site Layout		
3RD	1	Introduction & Principles Governing Site Layout Understand the purpose of site layout and learn key principles for efficient planning
	2	Factors Affecting Site Layout – Part 1 Identify natural and environmental factors such as topography, soil, climate affecting site planning
	3	Factors Affecting Site Layout – Part 2 Understand man-made and logistical factors like accessibility, utilities, safety, space allocation
4TH	1	Preparation of Site Layout – Part 1 Learn step-by-step procedure for preparing site layout: offices, storage, labor huts, approach roads
	2	Preparation of Site Layout – Part 2 Practical exercise: drafting a simple site layout plan based on a sample project
	3	Land Acquisition Procedures -Learn legal and procedural aspects for acquiring land, documentation, approvals
5TH	1	Providing Compensation-Understand methods for valuation and compensation to landowners, negotiation techniques
	2	Review & Assessment-Recap all topics, Q&A, and practical evaluation of a sample site layout
UNIT –III Planning and scheduling		
	3	Understand the importance of planning and scheduling in construction projects
6TH	1	Identify major construction activities and assign appropriate durations
	2	Learn various scheduling methods (Bar Chart, CPM, PERT)
	3	Prepare a bar chart, understand merits and limitations
7TH	1	Elements of Network: Event, Activity, Dummy Activities

	2	Precautions in Drawing Networks & Numbering Events
	3	Learn forward and backward pass calculations, start & finish times, project duration
8TH	1	Floats: Types of Floats (Free, Independent, Total), Critical Activities & Critical Path
	2	Crashing a Network: Purpose, Normal Time & Cost, Crash Time & Cost, Cost Slope, Optimization
	3	Understand importance of material planning, ordering cost, inventory carrying cost
9TH	1	Calculate EOQ for construction materials
	2	Learn record-keeping for stores, inventory control techniques
	3	Classify items and manage inventory using ABC method
10TH	1	Material Procurement through Portals
	2	Recap all topics, solve sample problems, Q&A session
		UNIT –IV Construction Contracts and Specification
	3	Introduction to Construction Contracts-Understand the purpose and importance of contracts in construction projects
11TH	1	Types of Construction Contracts-Learn various types: Lump-sum, Item-rate, Cost-plus, Percentage, Turnkey, EPC contracts
	2	Types of Construction Contracts-Learn various types: Lump-sum, Item-rate, Cost-plus, Percentage, Turnkey, EPC contracts
	3	Contract Documents-Study the key documents: Agreement, Tender documents, Drawings, Bill of Quantities, Specifications
12TH	1	Contract Documents-Study the key documents: Agreement, Tender documents, Drawings, Bill of Quantities, Specifications
	2	Specifications: General & Special Conditions-Understand general and special conditions of contracts, their role in ensuring quality and compliance
	3	Contract Management-Learn roles and responsibilities in managing contracts, including monitoring, reporting, and compliance
13TH	1	Introduction to Arbitration & Settlement Procedures-Understand basic procedures for dispute resolution in construction contracts
		UNIT –V Safety in Construction
	2	Introduction to Safety in Construction:-Understand the importance of safety in construction projects and its impact on productivity
	3	Causes of Accidents in Construction-Identify common causes of accidents on construction sites (falls, electrical, equipment, structural failures, human errors)
14TH	1	Causes of Accidents in Construction-Identify common causes of accidents on construction sites (falls, electrical, equipment, structural failures, human errors)
	2	Remedial Measures for Construction Accidents-Learn immediate actions to mitigate accidents and ensure safety
	3	Remedial Measures for Construction Accidents-Learn immediate actions to mitigate accidents and ensure safety
15TH	1	Preventive Measures in Construction-Understand preventive strategies: PPE, safe work practices, training, safety signage
	2	Preventive Measures in Construction-Understand preventive strategies: PPE, safe work practices, training, safety signage
	3	Labour Laws and Acts Pertaining to Civil Construction (Introduction Only)-Learn basic legal framework governing labor safety and welfare

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15/01/2026



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