

# Lesson Plan – Estimating, Costing & Valuation

Programme: Diploma in Civil Engineering

Semester: 4th Semester

Course: Estimating, Costing & Valuation(Th-3)

Session-Summer-2026

Total Classes: 45 | Periods per Week: 2

Faculty: Sri Amit Kumar Sahu, Sri Soubhagya Ranjan Mohanty

Week	Class	Topic / Lesson Description
Week 1	1	Introduction to Estimating & Costing: Meaning and Purpose.
	2	Administrative Approval vs. Technical Sanction: Definitions & Importance.
	3	Types of Estimates: Approximate (Plinth area, Cubical content) and Detailed Estimate.
Week 2	4	Role and Responsibilities of Engineers at various levels (JE, AE, EE, SE).
	5	Administrative Setup & Hierarchy: State Govt. (OPWD), Central (CPWD), and PSUs.
	6	Standard Formats: Introduction to Measurement Sheet and Abstract Sheet.
Week 3	7	IS:1200: Modes of measurement for Earthwork and Concrete.
	8	IS:1200: Modes of measurement for Brickwork, Plastering, and Woodwork.
	9	Rules for Deductions: Doors, Windows, and small openings as per IS:1200.
Week 4	10	Specifications: General & Detailed specifications as per OPWD/DSR/CPWD.
	11	Data required for Detailed Estimate: Civil cost, GST, and Contingencies.
	12	Supervision charges and procedure for preparation of a Detailed Estimate.
Week 5	13	Principles of Long Wall and Short Wall Method.
	14	Principles of Centre Line Method.
	15	Comparison and selection of methods for different building shapes.
Week 6	16	Detailed Estimate Project: Residential Building (Long Wall & Short Wall).
	17	Detailed Estimate Project: Residential Building (Centre Line Method).
	18	Provisions: Water supply, Sanitary, and Electrification charges (Percentage).
Week 7	19	Special Terms: Prime Cost, Provisional Sum, and Provisional Quantities.
	20	Bill of Quantities (BOQ) and Spot/Site Items.
	21	Numerical Exercise: Filling a Measurement and Abstract sheet for a small room.
Week 8	22	Bar Bending Schedule (BBS): Concepts and importance in RCC work.
	23	BBS for Footing and Column elements.
	24	BBS for Beams, Lintels, and Chajjas.
Week 9	25	BBS for One-way and Two-way Slab elements.
	26	Earthwork: Quantities for roads and embankments (Introduction).
	27	Mid-sectional Area Method: Theory and Numerical.
Week 10	28	Mean Sectional Area Method: Theory and Numerical.
	29	Prismoidal and Trapezoidal Formulae for Earthwork.
	30	Numerical problems on Canal excavation (Cutting and Filling).

P.T.O

1/2

## Lesson Plan – Estimating, Costing & Valuation

Programme: Diploma in Civil Engineering

Semester: 4th Semester

Course: Estimating, Costing & Valuation(Th-3)

Session-Summer-2026


Total Classes: 75 | Periods per Week: 5

Faculty: Sri Amit Kumar Sahu, Sri Soubhagya Ranjan Mohanty

Week 11	31	Detailed Estimate: Septic Tank (Plan and Section analysis).
	32	Detailed Estimate: Septic Tank (Quantity Calculation).
	33	Estimate of RCC Culvert: Components and Data required.
Week 12	34	Estimate of Drainage Syphon and Vertical Fall.
	35	Estimate of Bituminous Road (Sub-base, Base, and Wearing course).
	36	Rate Analysis: Definition, Purpose, and Importance.
Week 13	37	Lead and Lift: Definitions and standard vs. extra lead calculations.
	38	Overhead charges, Water charges, and Contractor's Profit (Standard %).
	39	Task Work: Definitions and daily output of different skilled labors.
Week 14	40	Categories of Labor and current daily wage rates (as per Schedule of Rates).
	41	Hire charges of Machineries and Transportation charges for materials.
	42	Rate Analysis Workshop: PCC (Plain Cement Concrete) 1:2:4.
Week 15	43	Rate Analysis Workshop: Brickwork in CM 1:6 and Plastering work.
	44	Rate Analysis Workshop: Flooring (Tiles/Marble) and Painting.
	45	Final Review: Preparation of a complete Abstract for a small project.

Soubhagya Mohanty  
(Guest Faculty)

22.12.2025

  
22/12/2025  
(Amit Kumar Sahu  
Guest Faculty)