Course Module of the Subject Taught for the Session Augst-Dec 2025-26 (ODD Semester) Course Syllabi with CO's

Faculty Name :			Academic Year: 2025-26				
Department: CIVIL ENGINEERING							
Course Code	Course Title	Core/Elective	Prerequisite	Contact Hours			Total Hrs/ Sessions
				L	T	P	
BCV702	**Estimation and contract Management**	**CORE**	**RCC & Steel Engineering**	**3**	**2**	**-**	**50**
Objectives	The objective of this course is to make students to learn: 1. Estimate the quantities of work, develop the bill of quantities and arrive at the Cost of civil engineering Project 2. Understand and apply the concept of Valuation for Properties 3. Understand, Apply and Create the Tender and Contract document.						

Topics Covered as per Syllabus

MODULE 1

Chapter 1: Estimation: Type of estimates, Understanding the enclosures of an estimate, General terminology, units of measurement, Preparation of abstract, approximate methods of estimating buildings, cost of materials and recommended labour coefficients. Building Estimate: Methods of taking out quantities and cost (center line method & long and short wall method). Preparation of detailed and abstract estimates for– Buildings – Masonry structures, framed structures. Flat, slopped RCC roofs with all building components.

Chapter 2: Culverts (includes box culvert, pipe culvert and RC slab culverts) manhole and septic tank.

MODULE 2

Chapter 1: Estimation of flat, slopped RCC roofs, steel truss. Culverts (including box culvert, pipe culvert and RC slab culverts) manhole and septic tank. Measurement of Earth Work for Roads: Methods for computation of earthwork bymid-section formula, trapezoidal or average end area or mean sectional area formula, prismoidal formula.

Chapter 2: Project Preparation: Preliminary Survey Report and Detailed Project Report

MODULE 3

Chapter 1: Significance of Microsoft Excel or any other equivalent software in estimation.

Chapter 2: Specifications: Definition of specifications, objectives of writing specifications, essentials in specifications, general and detailed specifications of item of works in buildings, specifications of aluminium and wooden partitions, false ceiling, aluminium and fiber doors and windows. Various types of claddings.

MODULE 4

Chapter 1: Rate analysis: Definition and purpose. Working out quantities and rates for the following standard items of works – earth work in different types of soils, cement concrete of different mixes, bricks and stone masonry, flooring, plastering, RCC works, centering and form work for different RCC items, wood and steel works or doors, windows and ventilators.

MODULE 5

Chapter 1: Contracts: Types of contract-essential of contract –legal aspects, penal provision on breach of contract. Definition of the terms-Tender, Earnest money deposit, tender forms, documents and types. Comparative statements, acceptance of contract documents and issue of work orders, duties and liabilities, termination of contract, completion certificate, quality control, right of contractor refund of deposit. Administrative approval - Technical sanction. Nominal muster roll, measurement books – procedure for recording and checking measurements – preparation of bills.

List of Text Books

1. Datta B.N., "Estimating and costing", UBSPD Publishing House, New Delhi.
2. B.S. Patil, "Civil Engineering Contracts and Estimates", Universities Press.
3. M. Chakraborthi; "Estimation, Costing and Specifications", Laxmi Publications.
4. MORTH Specification for Roads and Bridge Works – IRC New Delhi.

List of Reference Books

1. Kohli D.D and Kohli R.C, “Estimating and Costing", 12 th Edition, S.Chand Publishers, 2014.
2. Vazirani V.N and Chandola S.P, “Estimating and costing", Khanna Publishers, 2015.
3. Rangwala, C. "Estimating, Costing and Valuation", Charotar Publishing House Pvt. Ltd., 2015.
4. Duncan Cartlidge , "Quantity Surveyor’s Pocket Book", Routledge Publishers, 2012.
5. Martin Brook, "Estimating and Tendering for Construction Work", A Butterworth-Heinemann publishers, 2008.
6. Robert L Peurifoy , Garold D. Oberlender , “ Estimating Construction Costs” – 5ed , Tata McGraw-Hill ,New Delhi.
7. David Pratt, “Fundamentals of Construction Estimating” – 3rd, Edition.
8. PWD Data Book, CPWD Schedule of Rates (SoR). and NH SoR – Karnataka FIDIC Contract forms.
9. B.S. Ramaswamy “Contracts and their Management” 3ed, Lexis Nexis (a division of Reed Elsevier India Pvt Ltd).

URLs : https://www.youtube.com/watch?v=D04uxZpgp6M		**RBT LEVELS**
Course Outcomes	**After the completion of the course the student will be able to ,**	
	1. Develop the quantity estimates for different Civil Engineering structures, works & also communicate the cost abstract in a simple form to the stake holders	L4
	2. Prepare specifications of various Civil Engineering Structures/works, also will be able to analyse the requirement of a structure /work to arrive at a specific cost for completion of the same	L4
	3. Make use of minimum basic knowledge gained in this course to take up entrepreneurship/employment as a contractor	L4
Internal Assessment Marks: 40 (3 Session Tests are conducted during the semester).		

The Correlation of Course Outcomes (CO’s) and Program Outcomes (PO’s)

Subject Code:	BCV702	TITLE: **Estimation and contract Management**					Faculty Name:					
List of Course Outcomes	Program Outcomes											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Total
CO-1	1	1	-	-	1	2	-	-	-	-	-	1	6
CO-2	1	1	-	-	1	2	-	-	-	-	-	1	6
CO-3	-	-	-	-	-	2	-	1	-	-	-	1	4
Total	**2**	**2**	**-**	**-**	**2**	**6**	**-**	**1**	**-**	**-**	**-**	**3**	**16**

Note: 3 = Strong Contribution 2= Average Contribution 1 = Weak Contribution 0 = No Contribution

The Correlation of Course Outcomes (CO’s) and Program Specific Outcomes (PSO’s)

Subject Code:	BCV702	TITLE: **Estimation and contract Management**	Faculty Name:		**RBT LEVELS**
List of Course Outcomes	Program Specific Outcomes				
	PSO1	PSO2	Total		
CO-1	1	-	1		L4
CO-2	1	-	1		L4
CO-3	1	-	1		L4
Total	**3**	-	**3**		-

Note: 3 = Strong Contribution 2= Average Contribution 1 = Weak Contribution 0 = No Contribution