

<b>B. Tech. Civil Engineering</b>						
<b>Course code: Course Title</b>		<b>Course Structure</b>			<b>Pre-Requisite</b>	
<b>CE 323: Quantity Surveying and Estimation.</b>		<b>L</b> <b>3</b>	<b>T</b> <b>1</b>	<b>P</b> <b>0</b>	<b>C</b> <b>4</b>	<b>NIL</b>

**Course Objective:** To understand methods of quantity survey, estimation and specifications of materials, rate analysis as required in construction projects.

<b>S. No</b>	<b>Course Outcomes (CO)</b>
<b>CO1</b>	Understand basic terms and the importance of estimation of quantity and cost.
<b>CO2</b>	Understand the technical specifications for various works to be performed for a project.
<b>CO3</b>	Understand methods of evaluating quantities of constituents, derive their cost rates and estimate the cost of the structure.
<b>CO4</b>	Understand how competitive bidding works and how to submit a competitive bid proposal.

<b>S. No</b>	<b>Contents</b>	<b>Contact hours</b>
<b>UNIT 1</b>	Introduction to estimation - Types of estimates- Necessity - Method of measurements – Specifications of construction materials.	10
<b>UNIT 2</b>	General items of work in construction projects – Standard units, Principles of working out quantities for detailed and abstract estimates – Methods of estimating. Detailed estimates of projects.	10
<b>UNIT 3</b>	Rate Analysis – Working out data for various items of work, overhead and contingency charges.	10
<b>UNIT 4</b>	Contracts – Types of contracts – Contract documents – Conditions of contract, Valuation – Standard specifications for different items of construction projects.	10
	<b>Total</b>	<b>40</b>

<b>REFERENCES</b>		
<b>S. No.</b>	<b>Name of Books/Authors/Publishers</b>	<b>Year of Publication / Reprint</b>

1	B.N. Dutta, “Estimating and Costing in Civil Engineering”, UBS Publishers.	2017
2	2. A.K. Upadhyay, “Civil Estimating and Costing”, S.K. Kataria and Sons Publishers.	2013
3	G.S. Birde, “Estimating and Costing”, Dhanpat Rai Publishing Company	2014
4	M. Chakraborty, “Estimating, Costing, Specifications and Valuation in Civil Engineering. Chakraborti Publication.	2006
5	Standard Schedule of Rates and Standard Data Book by the Public Works Department.	2018