VALUATION AND QUANTITY SURVEY
(SYLLABUS)

Course Code	23CE4601C	Year	III	Semester	II
Course Category	PE-II	Branch	CIVIL	Course Type	Theory
Credits	3	L-T-P	3-0-0	Prerequisites	Surveying, AutoCAD
Continuous Internal Evaluation	30	Semester End Evaluation	70	Total Marks	100

Course Objectives:

The objective of this course is to:

- To provide foundational knowledge of estimation, quantity surveying, and the roles and responsibilities of a quantity surveyor.
- To develop the ability to interpret construction drawings and apply standard specifications and units of measurement.
- To equip students with skills to perform rate analysis using CPWD DSR and DAR data.
- To enable preparation of detailed estimates, BBS, and BoQ for buildings and infrastructure works
- To introduce basic valuation concepts and methods used for assessing the value of land and buildings**.**

Course Outcomes:

Course will enable the student to:

CO	Statement	Blooms level
CO1	Define basic terms related to estimation, quantity surveying and contract document	**L3**
CO2	Interpret the item of work from drawings and explain its general specification and unit of measurement and make use of given data from CPWDDAR/DSR for calculating the unit rate of different items of work associated with building Construction	**L3**
CO3	Develop detailed measurement (including BBS) and BoQ for various work like buildings, earth work for road, sanitary and water supply work	**L4**
CO4	Explain various basic terms related to valuation of land and Building	**L3**
CO5	Develop valuation of buildings using different methods of valuation.	**L4**

Course Articulation Matrix:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	2											2	2
CO2	3	2	2		3							2	3
CO3	3	3	3		3							2	3
CO4	2	2	2		2							2	2
CO5	3	2	3		2							2	

Syllabus

Unit No	Content	Mapped COs
I	Introduction- Quantity Surveying- Basic principles, Role/responsibility of Quantity surveyor at various stages of construction. Estimate-Details required, Type of estimate, purposes. Contingencies, Work-charge establishment, Tools and Plant, centage charge, Day work, Prime cost, Provisional sum & provisional Quantity, Overhead charges, Cost index, Contract documents (Brief description only)Bill of Quantity-Typical format-use Item of works- Identify various items of work from the drawings (focus may give to RCC residential building) General rule & method of measurement with reference to Indian Standard Specifications- IS1200.	**CO1**
II	Introduction to the use of CPWD schedule of rates as per latest DSR and Analysis of rate as per latest DAR. Specifications-General specification of all items of a residential building. Detailed specification (CPWD specifications) of major item of work like Earth work excavation in foundation, masonry, Reinforced cement concrete, Analysis of rates for Earth work in excavation for foundation, mortars, reinforced cement concrete Works, finishing work, masonry work, with reference to latest DSR and latest DAR (Data should be given).	**CO2**
III	Detailed Estimate- Preparation of detailed measurement using Centre line method & Short wall long wall (separate wall) method for RCC single storied building (including stair cabin- Residential/office/school building. BOQ preparation of a single storied RCC building work. Material quantity calculation of the items of work (Rubble, Brick work, Concrete work, Plastering) in detailed estimate prepared for building work. (Data for unit quantity should be provided from DAR)	**CO3**
IV	Bar Bending Schedule- Preparation of BBS of RCC beams, Column Retaining wall. Road estimation: Estimation of earthwork from longitudinal section-metaled road. Estimation of sanitary and water supply work -Water tank, Septic tank (No Detailed estimate needed-concept of item of work, its general specification and unit of measurement)	**CO4**
V	Methods of calculating depreciation – straight line method – constant percentage method Valuation – purpose, factor affecting, introduction to terms-Value, Cost, Price, kinds of values Income- Gross income, net income, outgoings, annuity, sinking fund,Year's purchase. Methods of valuation–rental method, direct comparison of capital cost, valuation based on profit, depreciation method. Various method of valuation of land (Brief description only)	**CO5**

Learning Resource(s)

Text Book(s)

1. B.N.Dutta, Estimation and costing in civil engineering, UBS publishers
2. Rangwala, Estimation Costing and Valuation, Charotar publishing house pvt.ltd
Dr. S. Seetha Raman, M.Chinna swami, Estimation and quantity surveying, Anuradha publications Chennai
3. M Chakraborthy, Estimating, Costing, Specification and valuation, published by the author, 21 B,

Reference Book(s)

1. BS Patil, Civil Engineering contracts and estimates, university press
2. VNVazirani & SPChandola, Civil Engineering Estimation and Costing, Khanna Publishers
3. IS1200-1968; Methods of measurement of building & civil engineering works
4. CPWDDAR2018andDSR2018orlatest
5. CPWDSpecificationsVol1&2(2019orlatestedition)

Faculty **HoD-CE**