

1151CE112 (VTUR15)	ESTIMATION AND QUANTITY SURVEYING	L	T	P	C
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Course Category: Programme Core

A. Preamble:

This course provides the knowledge to estimate the quantities of item of works involved in buildings, water supply and sanitary works, road works and irrigation works, and also equips to do rate analysis, valuation of properties and preparation of reports for estimation of various items.

B. Prerequisites:

- Nil

C. Link to other Courses:

- Contract Laws and Regulation

D. Course Educational Objectives:

Students undergoing this course are expected to:

- Determine the various aspects of estimating of quantities of items of works involved in buildings, water supply and sanitary works, road works and irrigation
- Compute the rate analysis, valuation of properties and preparation of reports for estimation of various items
- Learn to estimate the material quantities, prepare a bill of quantities, make specifications and prepare tender documents the Problem solving technique

E. Course Outcomes:

Upon the successful completion of the course, learners will be able to

CO Nos.	Course Outcomes	Level of learning domain (Based on revised Bloom's)
CO1	Estimate the Quantity of various items of works involved in buildings.	K2
CO2	Estimate the Quantity of various items of works involved in roads ,retaining walls , culverts ,water supply and sanitary works	K2
CO3	Prepare specification ,tenders, contract document and rate analysis	K2
CO4	Estimate valuation of buildings	K2
CO5	Prepare report on estimate of various civil engineering works	K2

F. Correlation of COs with POs

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	M		H											M
CO2	M		H											M
CO3	M		H											
CO4	L		L								M			
CO5						M				M	M			

G. Course Content :

UNIT I ESTIMATE OF BUILDINGS 11

Load bearing and framed structures – Calculation of quantities of brick work, RCC, PCC, Plastering, white washing, colour washing and painting / varnishing for shops, rooms, residential building with flat and pitched roof – Various types of arches – Calculation of brick work and RCC works in arches – Estimate of joineries for panelled and glazed doors, windows, ventilators, handrails etc.

UNIT II ESTIMATE OF OTHER STRUCTURES 10

Estimating of septic tank, soak pit – sanitary and water supply installations – water supply pipe line – sewer line – tube well – open well – estimate of bituminous and cement concrete roads – estimate of retaining walls – culverts – estimating of irrigation works – aqueduct, syphon, fall.

UNIT III SPECIFICATION AND TENDERS 8

Data – Schedule of rates – Analysis of rates – Specifications – sources – Preparation of detailed and general specifications – Tenders – TTT Act – e-tender – Preparation of Tender Notice and Document – Contracts – Types of contracts – Drafting of contract documents – Arbitration and legal requirements.

UNIT IV VALUATION 8

Necessity – Basics of value engineering – Capitalised value – Depreciation – Escalation – Value of building – Calculation of Standard rent – Mortgage – Lease

UNIT V REPORT PREPARATION 8

Principles for report preparation – report on estimate of residential building – Culvert – Roads – Water supply and sanitary installations – Tube wells – Open wells.

TOTAL: 45 Periods

H. Learning Resources

a. TEXT BOOKS

1. Dutta, B.N., Estimating and Costing in Civil Engineering, UBS Publishers & Distributors Pvt. Ltd., 2003
2. Kohli, D.D and Kohli, R.C., A Text Book of Estimating and Costing (Civil), S. Chand & Company Ltd., 2004

b. REFERENCES

1. Hand Book of Consolidated Data – 8/2000, Vol.1, TNPWD.
2. Tamil Nadu Transparency in Tenders Act, 1998.
3. Arbitration and Conciliation Act, 1996.
4. Standard Bid Evaluation Form, Procurement of Good or Works, the World Bank, April 1996.
5. Standard Data Book for Analysis and Rates, IRC, New Delhi, 2003.