

B. Tech. III Semester VI

Subject Name : Estimating Costing and Valuation **Subject Code:** BTCL13603
Type of course : PCC
Prerequisite : Building and Town Planning BTCL13301
Rationale : To provide student with the ability to estimate the quantities of item of works involved in buildings, preparation of reports for estimation of various items, to equip the student with the ability to do rate analysis and also evaluating valuation of properties.

Teaching and Examination Scheme:

TEACHING SCHEME				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	150
3	0	2	4	60	25	15	30	20	

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests **CA2:** Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems **TEE:** Term End Examination **TEP:** Term End Practical Exam (Performance and viva on practical skills learned in course) **CA3:** Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

Content:

Sr. No.	Topics	Teaching Hrs.	Module Weightage
1.	Quantity Estimation Estimates- Definition, Units of measurements, Methods of estimation, advantages, types of estimates, Different methods to find the quantities of civil works, detailed estimates of residential buildings—single storied and multi-storeyed buildings, earthwork, foundations, Estimated cost and its importance. Provisions of IS-1200, for working out quantities and deductions in civil works. Entering the measurements in quantity	15	30 %
2.	Rate Analysis and Costing Definition of rate analysis, Definition of task, Determination of man power and material requirement for a given quantity of items of civil works, study of present wages of labour and prices of material in the market. Study of market rents of different construction equipment, Determination of rate of item of civil work. Working out rates of various items of civil works like 10m ² plaster, 10m ³ 1:2:4 plain and reinforced concrete, 10m ³ brick work etc.	12	25 %
3.	Specifications and Reports Definition, importance of specification, Types of specification, Care to be taken while drafting specifications, Drafting general specifications, and detailed specifications for various civil work items.	6	20 %
4.	Valuation	12	25 %

PCC: Professional Core Course

	Definitions of value, price and cost, depreciation, sinking fund , different type of values and their significance, factor affecting value, rent and standard rent, Years purchase, valuation tables, Easement, types of easements, significance of easement in valuation, Methods of valuation of buildings and land, Estimation of values of different types of buildings and lands.		
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Suggested Specification table with Marks (Theory/Practical):

% Distribution of Marks					
R Level	U Level	A Level	N Level	E Level	C Level
15	20	25	15	15	10

Legends: R: Remembrance, **U:** Understanding; **A:** Application, **N:** Analyze, **E:** Evaluate **C:** Create

Reference Text Books:

Sr. No.	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication	Publication Edition
1.	A Textbook of Estimating and Costing (civil)	D. D. Kohli and Ar. R. C. Kohli's	S Chand & Co Ltd 9788121903325, 9788121903325	2019	Revised
2.	Estimating and Costing in Civil Engineering	Dutta B.N.	UBS Publishers' Distributors Ltd 9788174767707, 8174767703	2020	28 th
3	Civil Estimating & Costing: Including Quality Surveying, Tendering And Valuation	A.K. Upadhyay	S K Kataria and Sons 8185749981	2013	1 st
4	Valuation of Real Properties	Rangwala	Charotar Publishing 9385039016	2015	1st

Course Outcome:

Sr. No.	CO Statement After learning this subject, students will be able to	Marks % weightage
CO-1	Describe the purpose and importance of estimation , costing, rate analysis(<i>R,U,A—Cognitive level</i>)	10
CO-2	Workout detail estimate for foundation, super structures of building and other civil engineering structures(<i>U,A, N, E—Cognitive level</i>)	25
CO-3	Determine rate Analysis for important building item based on the market rates and SOR(<i>R,U,A, N—Cognitive level</i>)	20
CO-4	Demonstrate and work out specifications for various civil work items(<i>R,U,A, N, E—Cognitive level</i>)	20
CO-5	Introduce the students in depth knowledge of professional practice and valuation for land and buildings (<i>A, N, E,C—Cognitive level</i>)	25

Mapping with POs:

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO-1	3	2	2	1	1	2	3	1	3	3	2	2	2	1	2
CO-2	2	3	2	3	3	2	1	2	2	2	2	1	1	3	3
CO-3	2	1	2	3	2	2	2	1	2	2	2	2	3	1	2
CO-4	1	1	2	3	2	3	1	3	1	3	2	2	3	2	2
CO-5	1	1	1	2	1	3	1	3	1	3	2	2	1	1	1
Rationale *	9	8	9	12	9	12	8	10	9	13	10	9	10	8	10

Rationale*: To provide the student with the ability to estimate the quantities of item of works involved in buildings, preparation of reports for estimation of various items and also to equip the student with the ability to do rate analysis, valuation of properties

List of Practicals:

1. Live measurement study of your residential property and preparation of drawings.
2. Workout Quantity survey of substructure of residential building.
3. Workout Quantity survey of superstructure of residential building.
4. Carryout Market survey of materials used for construction.
5. Workout rate analysis of items of civil works.
6. Study of valuation Reports
7. Survey of market rate of land for commercial, residential, industrial plot and built-up property.
8. Tutorials based on syllabus

List of Open Source/learning website:

1. <https://nptel.ac.in/courses/105/103/105103093/> (Estimation)
2. <https://nptel.ac.in/courses/105/103/105103093/> (Rate Analysis)
3. <https://nptel.ac.in/courses/105/103/105103093/> (Measurements in civil engineering)