Professional Practice & Valuation

01CI1604

Objective of the Course:

- To work out the Quantity of material required for various activities of the construction.
- To acquaint the students with concept of Valuation, depreciation and sinking fund.
- To understand how the rates of individual item of work is calculated.
- To prepare abstract sheet and bill of quantities for a project.

Credit Earned: 04

Student's learning outcomes:

After successful completion of the course, it is expected that students will be able to,

1. Develop approximate and detailed quantity estimation of general building quantities from the given plan.
2. Estimate the quantity of RCC elements for various structures.
3. Analyze rates of various items of civil engineering structures.
4. Appraise the valuation of a building structure.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
03	01	00	04	50	30	20	25	25	150

Detailed Syllabus

Sr. No.	Title of the unit	Number of Hours
1	**Estimation**	**18**
	1.1 **Definition** – Estimation, Estimate, Types of Estimates, Role of Estimator, Purpose of Estimation, Methods of Estimation.	6
	1.2 **Quantity Calculation for Residential Building** - Quantity estimation of Excavation, PCC, DPC, Brickwork in foundation and plinth, Brickwork in superstructure, Plastering, Painting, Flooring, RCC	6

	1.3 **Advanced Quantity Estimation** - Calculation of quantities of various items of civil works for industrial buildings, Highway, Dam, Culvert, Roads etc.	4
	1.4 **Abstract and Billing** - Purpose of abstract, preparation of abstract, measurement and billing, checking of running bills and final bill.	2
2	**Rate Analysis**	**10**
	2.1 **Definition** - Rate analysis, Factors affecting rate analysis, overhead expenses, procedure for rate analysis, schedule of rates, Definition of task.	4
	2.2 **Market Survey** - Determination of manpower and material requirement for a given quantity of items of civil works, study of present wages of labour and prices of traditional and modular materials in the market.	3
	2.3 **Item rate Calculation** - Study of market rates of different construction tools, plants, equipments, Labour rates as per the Schedule of rates. Determination of rate of different items of civil work. Working out rates of various items of civil works.	3
3	**Valuation**	**14**
	3.1 **Definition** - Value, Price and Cost, Depreciation, sinking fund, different type of values and their significance, factors affecting value, rent and standard rent, Leasehold and freehold property, obsolescence, Gross income, Outgoing and Net income, Capitalized value and Years purchase, valuation tables.	4
	3.2 **Types of Depreciation** – Straight line, Percentage rate, Sinking Fund	5
	3.3 **Calculation of Total Income** – Gross Income, Net Income, Outgoings. Methods of valuation of buildings and land, Estimation of values of different types of buildings and lands.	5
	Total	**42**

List of Tutorials

SR NO	TOPIC TO BE COVERED	NO. HOURS
1	Units of Measurement and Unit conversion	2
2	Working out Quantities of various items of civil works from working drawings of residential buildings – Long wall short wall method	3
3	Working out Quantities of various items of civil works from working drawings of residential buildings – Centre Line Method	3
4	Rate analysis of various items of work – Residential Building	3
5	Calculation of Depreciation – Straight line Method	1
6	Calculation of Depreciation – Percentage rate Method	1
7	Calculation of Depreciation – Sinking Fund Method	1

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve an effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	10%	35%	30%	15%	5%

Instructional Method and Pedagogy:

1. At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
2. Lectures will be taken in class room with the use of multi-media presentations, white board– mix of both.
3. Attendance is compulsory in lectures and laboratory which carries a 5% component of the overall evaluation.
4. Minimum two internal exams will be conducted and average of two will be considered as a part of 15% overall evaluation
5. Assignments based on course content will be given to the students at the end of each unit/topic and will be evaluated at regular interval. It carries a weightage of 5%.
6. Surprise tests/Quizzes will be conducted which carries 5% component of the overall evaluation.

Recommended Study Material

1. B. N. Dutta, Estimation and Costing in Civil Engineering, Ubs Publishers Distributors, Ltd.
2. S. C. Rangwala, Estimating and Costing, Charotar Publishing House.
3. G. S. Birdie, Textbook of Estimating & Costing, Dhanpat Rai and Sons, Delhi.
4. M. Chakraborti, Estimating, Costing, Specification and Valuation.
5. P.W.D. Handbook and SOR, IS Code – 1200.
6. A. S. Kotadia, Professional Practice and Valuation, Mahajan Publications.
7. S. C. Rangwala, Valuation of Real Properties, Charotar Publication.