Devi Ahilya Vishwavidyalaya, Indore, India Institute of Engineering & Technology					III Year B.Tech. (Civil Engineering)	
Course Code & Name	**Instructions Hours per Semester and Credits**					
5RVPC3 Quantity Surveying & Costing	**Classroom Instruction (CI)**	**Lab Instruction (LI)**		**Term Work (TW) and Self Learning (SL)**	**Total no. of Hours Per semester**	**Total Credits (Total Hours/30)**
	L	**T**	**P**	**TW+SL**	**120**	**4**
	20	**10**	**20**	**70**		

Course Learning Objectives:

1. To understand the fundamentals of estimation and specification.
2. To provide exposure to rate analysis.
3. To provide hands-on experience in estimation.
4. To study the fundamentals of valuation.
5. To carry out valuation by different methods.

Prerequisites: Construction Technology, Reading, Drawing, Geometry

COURSE CONTENTS

Unit I: Introduction:
Purpose and importance of estimates, principles of estimating. Mode of measurement, measurement sheet and abstract sheet; bill of quantities. Types of estimates, plinth area rate, cubical content rate, preliminary, original, revised and supplementary estimates for different projects. Study of various drawing attached with estimates

Unit II: Rate Analysis:
Importance, Task for average artisan, various factors involved in the rate of an item, material, and labor requirement for different items of work; analysis of Rates for important items of work. Current schedule of rates. (C.S.R.)

Unit III: Detailed Estimates:
Methods of taking out quantities of items of work. Long wall and Short wall method, Centre line method, preparing detailed estimates of various types of buildings, Detailed Estimate of RCC beam, slab, Column, and preparation of bar bending schedule.

Unit IV: Earthwork Calculations Different methods of calculation of quantity of earthwork for road, canal, culverts etc. Capacity of Reservoir from the contours, Estimating of culverts, Services for building such as water supply, drainage and electrification.

Unit V: Valuation and Rent fixation

Grossandnetincome–Marketvalue–Bookvalue–Scrapvalue–Salvagevalue–Capitalizedvalues – sinking fund – depreciation – Valuation of a building – Rent fixation of buildings.

Course Outcome:

CO. No.	CO	
CO1	Understand the fundamentals of estimation and specification.	PO-2, PO-3, PO-4
CO2	Apply knowledge of rate analysis for estimation.	PO-4
CO3	Apply the knowledge of estimation for cost analysis.	PO-4
CO4	Understand the fundamentals of valuation.	PO-2, PO-3, PO-4
CO5	Apply the knowledge of various methods for valuation.	PO-4

Books recommended:

1. IS **Code of Practice** – IS 1200
2. Civil **Estimating, Costing and Valuation** – Kalson Publication, Ludhiana
3. Estimating **& Costing** – Rangwala; Charotar Publishing, 8th Edition, 1990
4. Quantity **Surveying & Valuation** – N.A. Shaw; Khanna Publishers, 2001
5. Quantity **Surveying** – P.L. Bhasin; S. Chand & Co., 3rd Edition, 1992
6. Estimating **and Costing** – L.N. Dutta; Dhanpat Rai & Sons, 2nd Edition, 1986
7. Estimating **and Costing** – Bridie, 1989
8. Estimating **and Costing** – Vazirani & Chandolu, 2001

CO-PO Relationship

CO	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12
5RVPC3.CO1		2	3	3								
5RVPC3.CO2				3								
5RVPC3.CO3				3								
5RVPC3.CO4		2	3	3								
5RVPC3.CO5				3								

List of Practical Assignment:

1. Preparation of detailed estimate.
2. Preparation of detailed estimate for services such as plumbing, water supply, or electrification work.
3. Preparation of detailed estimate for earthwork in road construction or arched culvert.
4. Rate analysis for at least **eight items** of construction.
5. Preparation of **Detailed Project Report (DPR)** of a Civil Engineering project.