

GANPAT UNIVERSITY									
FACULTY OF ARCHITECTURE DEISGN & PLANNING									
Programme	Bachelor of Architecture				Branch	INSTITUTE OF ARCHITECTURE			
Semester	V				Version	2.0.0.0			
Effective from Academic Year	2021-22				Effective for the batch Admitted in	June 2019			
Subject code	2VA06BES		Subject Name	Building Estimation and Specifications					
Teaching scheme					Examination scheme (Marks)				
(Per week)	Lecture (DT)		Practical (Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	-	-	-	2	Theory	40	60	100
Hours	2	-	-	-	2	Practical	-	-	-
Pre-requisites:									
Building Construction									
Objective:									
To develop basic understanding the importance of estimate and designing of specification to achieve the best in terms of cost efficiency and standards.									
Learning Outcome:									
<p>L01. After learning the course, the students should be able to: Work out the estimated cost of any proposed civil engineering structure and</p> <p>L02. After learning the course, the students should be able to: Work out the value of any old structure</p> <p>L03To understand and prepare SOR for various organizations.</p> <p>L04.To fill up tenders for various construction works.</p>									
Theory syllabus									
Unit	Content								Hrs
A	INTRODUCTION: Purpose and importance of estimation, role of surveyor works. Types of estimates approximate estimating techniques for various civil engineering works, reading of working drawings, ISI code for measurements.								04
B	ESTIMATION OF BUILDINGS: Definition, Units of measurements, types of estimates, Different methods to find the quantities of civil works. Estimated cost and its importance. Provisions of IS-1200, for working out quantities and deductions in civil works. Entering the measurements in quantity sheet and calculation of quantities of various items of civil works of small residential building (concrete, Steel, Shuttering, brickwork, wooden work), and Small Industrial Shed with Market rates of material and labour, Introduction to schedule of rates, Entering quantities and rates in abstract sheet, calculation of estimated cost.								15

	Estimate of Septic Tank, Soak Pit, Sanitary item – Plumbing, Electrification. Rate analysis of all major items to be prepared.	
C	ANALYSIS OF RATES 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 10 m ² plaster, 10 m ³ 1:2:4 plain and reinforced concrete, 10m ³ brick work etc.	05
D	ABSTRACTING AND BILLING: Abstracting methods relevant to ISI standards, preparation of abstract statements, cost analysis and statement.	04
E	SPECIFICATIONS: - 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.	04

Practical content

Study through practical site visits, presentations, case studies, tutorial, study of BOQ & workshop based on the application of theory to construction field.

Text Books

1 NA

Reference Books

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| 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. Birdi, 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. |

TERM WORK: (1) Work out quantities of various items of civil works from working drawings of residential, industrial and industrial buildings.

(2) Work out quantities of various items of civil works from drawings.

(3) To work out rates of items of civil works

(4) Examples on valuation of buildings.

(5) Drafting specifications for various items of civil work

	SA-PO 1	SA-PO 2	SA-PO 3	SA-PO 4	SA-PO 5	SA-PO 6	SA-PO 7	SA-PO 8	SA-PO 9	SA-PSO 1	SA-PSO 2	SA-PSO 3
VA08ECS-CO1	2	3	1	2	2	3	2	3	2	3	2	2
VA08ECS-CO2	1	3	2	3	2	2	3	3	2	2	1	2
VA08ECS-CO3	2	1	2	3	3	2	1	2	2	2	3	3