



# GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Diploma Engineering

Level: Diploma

Branch: Civil Engineering

Subject Code: DI05006051

Subject Name: Professional Practice & Valuation

<b>w. e. f. Academic Year:</b>	2026-27
<b>Semester:</b>	5th
<b>Category of the Course:</b>	PEC-03

<b>Prerequisite:</b>	Professional Elective Course
<b>Rationale:</b>	The subject helps diploma in civil engineering students with essential knowledge of professional responsibilities, legal aspects, contracts, tendering procedures, and property valuation. Civil engineers frequently interact with clients, contractors, and authorities; understanding professional ethics, documentation, and regulations is important for effective practice. The course also introduces fundamental valuation concepts, including property value, depreciation, rent fixation, and methods for valuing land and buildings. This knowledge helps students understand economic aspects of construction projects and property transactions. Overall, the subject prepares diploma engineers to perform professional duties responsibly and support decision-making in construction, property management, and infrastructure development.

## Course Outcome:

After Completion of the Course, the student will be able to:

No	Course Outcomes	RBT Level
01	Explain professional practice, ethics, and responsibilities of civil engineers.	R, U, A
02	Describe basic laws, contracts, and tendering procedures in civil engineering.	R, U, A
03	Explain the purpose, principles, and factors affecting property valuation.	R, U, A
04	Apply basic valuation methods and financial evaluation techniques.	U, A
05	Prepare simple valuation calculations and valuation reports for land and buildings.	R, U, A

\*Revised Bloom's Taxonomy (RBT)



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## Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Tutorial / Practical		
				ESE(E)	PA (M)	PA (I)	ESE (V)	
3	0	2	4	70	30	20	30	150

## Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	<p><b>Professional Practice in Civil Engineering</b></p> <p>1.1 Civil engineering profession and scope, Role, duties and responsibilities of civil engineers in public and private sectors.</p> <p>1.2 Professional ethics and conduct.</p> <p>1.3 Professional organizations.</p> <p>1.4 Professional office practice, consulting, documentation, interaction with clients, architects and local authorities.</p>	07	15%
2.	<p><b>Civil Engineering Laws, Regulations, Contracts and Tendering</b></p> <p>2.1 Need for legal knowledge in civil engineering.</p> <p>2.2 Basic overview of laws and regulations, such as the Indian Contract Act, Labour laws related to construction works, Environmental regulations, Building by-laws, and Role of local authorities and approval procedure, various types of land titles as per state government/local authority. Uses of Jantri rates for Land/property valuation.</p> <p>2.3 Contracts in civil engineering, Definition and essentials of a valid contract, Types of construction contracts.</p> <p>2.4 Tendering procedures, Meaning and purpose of tendering, Types of tenders, Tender notice and tender documents, Earnest Money Deposit (EMD), Security deposit, Contract agreement and basic contract administration, registration as a valid contractor in government/PSU.</p>	08	18%



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<p><b>3.</b></p>	<p><b>Fundamentals of Valuation</b></p> <p>3.1 Introduction to valuation, Definition of valuation, Need and importance of valuation, Purpose of valuation.</p> <p>3.2 Types of property and interests, Land and building, Residential, commercial, industrial, and agricultural property, Freehold and leasehold interests.</p> <p>3.3 Important terms in valuation, such as Cost, price, value, market value, book value, capitalized value, replacement cost, depreciation, scrap value, salvage value, and standard rent.</p> <p>3.4 Factors affecting the valuation of property.</p> <p>3.5 Basic principles of valuation, Principle of demand and supply, Principle of substitution, Principle of highest and best use, Principle of anticipation.</p>	<p>10</p>	<p>22%</p>
<p><b>4.</b></p>	<p><b>Methods and Approaches of Valuation</b></p> <p>4.1 Basic valuation approaches, Market approach, Cost approach, Income approach.</p> <p>4.2 Methods of valuation, Comparative sales method, Rental method, Capitalization method, Cost method.</p> <p>4.3 Income approach, Gross income and net income, Outgoings, Capitalization concept, Simple income-based valuation examples</p> <p>4.4 Cost approach, Replacement cost, Depreciated cost, Suitability of cost approach for buildings.</p> <p>4.5 Market approach, Comparison with similar properties, Factors for adjustment in comparable properties.</p> <p>4.6 Financial evaluation basics, Time value of money, Discounting concept, basic introduction of Net Present Value (NPV) and Internal Rate of Return (IRR).</p>	<p>08</p>	<p>18%</p>



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<b>5.</b>	<b>Valuation of Land and Buildings</b>	12	27%
	5.1 Valuation of land, Factors affecting land value, Basic methods for land valuation, Guidance value and market considerations.		
	5.2 Valuation of buildings, Valuation based on cost and depreciation, Valuation based on rent and income, Combined value of land and building.		
	5.3 Depreciation, Meaning and causes of depreciation, Physical deterioration, functional obsolescence, economic obsolescence Methods of depreciation, Straight Line Method, Constant Percentage Method, and Sinking Fund Method.		
	5.4 Standard rent, Meaning of standard rent, Factors affecting rent fixation, Simple calculation of standard rent.		
	5.5 Simple numerical problems, Valuation of small residential buildings, Land and building valuation examples, Depreciation and rent-related examples, valuation tables and their uses.		
5.6 Valuation report writing, Format of valuation report, Essential contents of valuation report, Supporting documents, plans, measurements, and data, Precautions in report writing.			
<b>Total</b>		45	100

**Suggested Specification Table with Marks (Theory):**

<b>Distribution of Theory Marks (in %)</b>					
<b>R Level</b>	<b>U Level</b>	<b>A Level</b>	<b>N Level</b>	<b>E Level</b>	<b>C Level</b>
<b>35</b>	<b>40</b>	<b>25</b>	<b>-</b>	<b>-</b>	<b>-</b>

*Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)*



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## References/Suggested Learning Resources:

### (a) Books:

Sr. No.	Title of Book	Author	Publication with Place, Year and ISBN (If any)
1	Professional Practice : With Elements of Estimating, Valuation, Contract and Arbitration	Dr. Roshan H. Namavat	Lakhani Book Depot, Mumbai, ISBN: 9789385492662
2	Estimating and Costing in Civil Engineering (Theory and Practice)	B. N. Dutta	CBS Publishers & Distributors, New Delhi, 2016, ISBN: 978-8174767707
3	Estimating, Costing, Specification and Valuation in Civil Engineering	M. Chakraborti	Published by the same author ISBN: 81-85304-36-XC
4	Theory and Practice of Valuation	A. K. Mitra	Eastern Law House, 1986
5	Valuation of Real Properties	S. C. Rangwala	Charotar Publishing House, Anand, 2013, ISBN: 978-9385039744
6	Professional Practice and Valuation	A.S. Kotadia	Mahajan Publishing House Ahmedabad ASIN: B082RBW5F2
7	Textbook of Estimating and Costing	G. S. Birdie	Dhanpat Rai Publishing Company, New Delhi, 2014, ISBN: 978-9384559519

### (b) pen source software and website:

1. [https://onlinecourses.swayam2.ac.in/e-learning/preview/imb26\\_mg11](https://onlinecourses.swayam2.ac.in/e-learning/preview/imb26_mg11).
2. Institution of Valuers: <https://www.institutionofvaluers.net/>.
3. Central Public Works Department: <https://cpwd.gov.in/>.
4. Quantity Surveyor: <https://www.quantitysurveyortools.com/>.
5. CostX: <https://www.rib-software.com/en/>.



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## Suggested Course Practical List:

Sr. No.	Practical Outcomes (Pros)	Unit No.	Approx. Hrs. Required
1.	Prepare a short report on the role and responsibilities of civil engineers in public and private sectors.	1	2
2.	Prepare a report on any one professional organization.	1	2
3.	Prepare a comparative chart of different types of construction contracts.	2	2
4.	Prepare a sample tender notice for a small construction project.	2	2
5.	Prepare a simple contract agreement format for construction work.	2	2
6.	Prepare a list of important valuation terms with definitions.	3	2
7.	Compare cost, price, and value with practical examples.	3	2
8.	Solve simple examples using rental method and capitalization method.	4	4
9.	Prepare a calculation sheet for income-based valuation.	4	2
10.	Prepare a simple land valuation calculation based on market data.	5	2
11.	Solve numerical problems on depreciation methods: <ul style="list-style-type: none"><li>• Straight line method</li><li>• Constant percentage method</li><li>• Sinking fund method</li></ul>	5	6
12.	Prepare a sample valuation report for a small residential property.	5	2
<b>Total</b>			<b>30</b>



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## **Special Instructional Strategies (If Any):**

1. Use case studies and real-life examples related to construction projects, contracts, and property valuation.
2. Demonstrate sample tender documents, contract agreements, and valuation reports for better practical exposure.
3. Invite guest lectures from practising engineers, contractors, or valuers to share professional experience.
4. Analyze real property valuation cases and prepare short reports.

## **Suggested Activities for Students: If any**

1. Arrange field visits to construction sites, municipal offices, or valuation offices to understand practical procedures.
2. Visit the PWD/CPWD office to understand tendering procedures, contract administration, and project documentation.

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