Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – December 2025

Date: 09- 12-2025 **Time:** 01:00pm – 04:00pm

School: SOE	**Program**: B.Tech Civil Engineering	
Course Code: CIV3038	**Course Name:** Construction Economics and Finance	
Semester: VII	**Max Marks**: 100	**Weightage**: 50%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**20**	**20**	**20**	**20**	**20**

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **10Q x 2M=20M**

1.	What are the different types of TVM calculations?	**2 Marks**	**L1**	**CO1**
2.	Define Equivalence with an example.	**2 Marks**	**L1**	**CO1**
3.	Assume that you need $1,000 in 2 years. Let's examine the process to determine how much you need to deposit today at a discount rate of 5% compounded annually.	**2 Marks**	**L1**	**CO1**
4.	Define the Present value and Future value of a lump sum.	**2 Marks**	**L1**	**CO1**
5.	Taylor wants to know how large her deposit of $10,000 today will become at a compound annual interest rate of 10% for 4 years.	**2 Marks**	**L1**	**CO1**
6.	State any two necessities of estimation.	**2 Marks**	**L1**	**CO4**
7.	Define Tender and Bidding.	**2 Marks**	**L1**	**CO4**
8.	Define an estimate in construction projects.	**2 Marks**	**L1**	**CO4**
9.	List the steps in estimation.	**2 Marks**	**L1**	**CO4**
10.	Which is the most accurate and most approximate estimate?	**2 Marks**	**L1**	**CO4**

Part B

Answer the Questions. **Total Marks 80M**

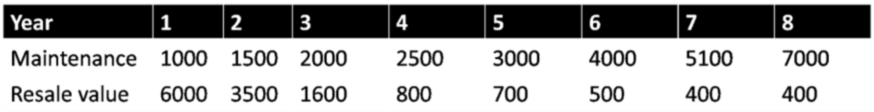
11.	**a.**	Ron is valuing an investment that will pay him $12,000 the first year, $14,000 the second year, $17,000 the third year, $19,000 the fourth year, $23,000 the fifth year, and $29,000 the sixth year (all payments are at the end of each year). What is the value of the investment to him now, if the appropriate annual discount rate is 11.00%?	**10 Marks**	**L3**	**CO1**
Or					
12.	**a.**	John and Peggy recently bought a house. They financed the house with a $125,000, 30-year mortgage with a nominal interest rate of 7 percent. Mortgage payments are made at the end of each month. What total dollar amount of their mortgage payments during the first three years will go towards repayment of principal?	**10 Marks**	**L3**	**CO1**

13.	**a.**	Explain the following with examples: (a)Ownership cost, (b) Operating cost, (c) Depreciation, (d) Inflation, (e) Taxes	**10 Marks**	**L2**	**CO2**
Or					
14.	**a.**	Explain the steps in cost-benefit analysis with an example.	**10 Marks**	**L2**	**CO2**

15.	**a.**	Calculate the probable ownership cost per hour of an excavator: • Cost of money: 10% • Equipment life: 5 years • Annual usage: 2500 hr • Purchase cost: $600,000 • Salvage value: $100,000	**10 Marks**	**L3**	**CO2**
Or					
16.	**a.**	The purchase price of equipment is Rs. 1,45,000. The estimated salvage value is Rs. 25,000 after its expected useful life of 6 years. Assume the following: • Interest rate: 9%	**10 Marks**	**L3**	**CO2**

		- Risk: 5% - Taxes, insurance, and storage: 3% Determine the annual ownership cost of the equipment.			

<table>
<tr><td>17.</td><td>a.</td><td>The cost of the machine is Rs. 9000, and its installation is Rs.1000. The maintenance costs and resale value found from experience are as follows:



<table>
<tr><th>Year</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th></tr>
<tr><td>Maintenance</td><td>1000</td><td>1500</td><td>2000</td><td>2500</td><td>3000</td><td>4000</td><td>5100</td><td>7000</td></tr>
<tr><td>Resale value</td><td>6000</td><td>3500</td><td>1600</td><td>800</td><td>700</td><td>500</td><td>400</td><td>400</td></tr>
</table>

When should the machine be replaced?</td><td>20 Marks</td><td>L3</td><td>CO3</td></tr>
<tr><td colspan="6">Or</td></tr>
<tr><td>18.</td><td>a.</td><td>Purchase price of a machine is Rs. 3,000 and its running cost is Rs. 500 for each of the first 5 years and increases by Rs. 100 every subsequent year. If the discount rate is 10% per year, when should the machine be replaced? Assume that there is no salvage value.</td><td>20 Marks</td><td>L3</td><td>CO3</td></tr>
</table>

19.	**a.**	Explain the terms in detail with an example: (a)Preliminary Estimate, (b) Detailed Estimate, (c) Supplementary Estimate, (d) Revised Estimate, (e) Rough Cost Estimates	**10 Marks**	**L2**	**CO4**
		Or			
20.	**a.**	Explain Life Cycle Costing along with its importance.	**10 Marks**	**L2**	**CO4**

21.	**a.**	Explain different contract issues.	**20 Marks**	**L2**	**CO5**
	b.	Explain the types of construction contract claims.		**L2**	**CO5**
		Or			
22.	**a.**	Explain the types of tenders.	**20 Marks**	**L2**	**CO5**
	b.	Explain the elements of a contract.		**L2**	**CO5**