



M.E / M.TECH/MCA DEGREE EXAMINATIONS: NOV/ DEC 2024

(Regulation 2024)

First Semester

CONSTRUCTION MANAGEMENT

24CNI504: Construction Economics and Finance

COURSE OUTCOMES

- CO1:** Apply basic principles of engineering economics to solve problems involving time value of money.
- CO2:** Analyze economic alternatives using methods like Present Worth and Rate of Return to make informed decisions
- CO3:** Evaluate the impact of taxation and inflation on construction project profitability and financial planning.
- CO4:** Compare different sources of finance and their suitability for managing working capital in construction project.
- CO5:** Interpret financial statements and cash flows using management accounting techniques to assess project performance
- CO6:** Develop a comprehensive financial analysis for a construction project by applying the learned techniques to real-world case studies

Time: Three Hours

Maximum Marks: 100

PART A (4*20 = 80 Marks)

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|----|----|--|---|-----|-------------------|
| 1. | a) | Explain the concept of the time value of money with an example | 4 | CO1 | [K ₂] |
| | b) | Discuss the role of Net Present Value (NPV) in comparing investment alternatives. | 4 | CO1 | [K ₁] |
| | | Scenario: | | | |
| | c) | Draw a cash flow diagram for an investment with an initial cost of ₹50,000, annual revenues of ₹10,000, and annual operating expenses of ₹2,000 for 5 years. | 4 | CO1 | [K ₅] |
| | d) | Explain the concept of equivalence in the context of single payment in the future. | 4 | CO1 | [K ₂] |
| | e) | Calculate the annual payment required to repay a loan of ₹1,00,000 in 5 years at an interest rate of 12% per annum. | 4 | CO1 | [K ₄] |
| 2. | a) | Explain the importance of comparing alternatives in economic analysis. | 4 | CO2 | [K ₂] |

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|-------|---|---|-----|-------------------|
| b) | Calculate the Present Worth of an investment requiring ₹50,000 today and generating ₹12,000 annually for 5 years at an interest rate of 10%. | 4 | CO2 | [K ₅] |
| c) | Define Rate of Return (ROR) Analysis and its significance in economic analysis. | 4 | CO2 | [K ₁] |
| d) | A project has benefits of ₹5,00,000 and costs of ₹3,00,000. Calculate the Benefit/Cost Ratio and comment on its acceptability. | 4 | CO2 | [K ₂] |
| e) | Discuss how Break-Even Analysis helps in evaluating the feasibility of a project. | 4 | CO2 | [K ₃] |
| 3. a) | Explain the significance of evaluating profit before and after tax in financial decision-making. | 4 | CO3 | [K ₂] |
| b) | A product has a base price of ₹10,000 and a VAT rate of 12%. Calculate the total price after VAT. | 4 | CO3 | [K ₅] |
| c) | A project has an initial cost of ₹1,00,000. If the annual inflation rate is 5%, calculate the cost of the project after 3 years. | 4 | CO3 | [K ₅] |
| d) | Explain the differences between VAT and Goods and Services Tax (GST). | 4 | CO3 | [K ₂] |
| e) | Explain the role of Expected Monetary Value (EMV) in decision-making under uncertainty. | 4 | CO3 | [K ₁] |
| 4. a) | Define project finance and explain its importance in large-scale infrastructure projects. | 4 | CO6 | [K ₂] |
| b) | What are the advantages and disadvantages of equity financing? | 4 | CO4 | [K ₂] |
| c) | A company has 100 units of inventory purchased at ₹50 each and later another 100 units purchased at ₹60 each. Calculate the value of inventory using FIFO and LIFO if 120 units are sold. | 4 | CO4 | [K ₄] |
| d) | What are the key features of a mortgage loan? | 4 | CO4 | [K ₂] |
| e) | Discuss how inventory valuation affects a company's profit and tax liabilities. | 4 | CO4 | [K ₂] |

Answer any ONE Question

PART B (1*20 = 20 Marks)

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|-------|--|---|-----|-------------------|
| 5. a) | Discuss the importance of management accounting in decision-making. | 4 | CO5 | [K ₁] |
| b) | Calculate the current ratio and quick ratio for a company with the following details:
Current Assets: ₹5,00,000
Inventory: ₹1,50,000
Current Liabilities: ₹2,00,000 | 4 | CO5 | [K ₄] |

- c) How is a funds flow statement prepared, and what are its key components? 4 CO5 [K₃]
- d) Differentiate between operating, investing, and financing activities in a cash flow statement. 4 CO5 [K₂]
- e) Explain the significance of financial statements for stakeholders. 4 CO5 [K₂]

OR

- 6. a) How do cash flow diagrams aid in visualizing the time value of money? 4 CO1 [K₂]
- b) Explain the difference between Internal Rate of Return (IRR) and Minimum Attractive Rate of Return (MARR). 4 CO2 [K₁]
- c) Describe how a company can use scenario analysis to mitigate risks in capital budgeting decisions. 4 CO6 [K₃]
- d) Discuss the importance of the operating cycle in managing working capital. 4 CO4 [K₂]
- e) Explain the tools used in management accounting for planning and control. 4 CO5 [K₃]
