



M.E DEGREE EXAMINATIONS: NOV/DEC 2023

(Regulation 2018)

First Semester

CONSTRUCTION MANAGEMENT

P18CMT1001:Project Management in Construction

COURSE OUTCOMES

- CO1:** Understand the project phases and various stakeholders of construction projects.
- CO2:** Design construction as an integrated project system.
- CO3:** Estimate the costs induced in construction.
- CO4:** Monitor the progress of the construction project
- CO5:** Understand the importance of management information systems.

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. In the context of construction projects, what does the term "Turnkey Operation" refer to? CO1 [K₁]
 - a) Project closure process.
 - b) Design and Construction integration.
 - c) Stakeholder communication.
 - d) Financial closure procedures.
2. Sequence the following leadership and motivation factors in the order of their importance for the project team: CO1 [K₂]
 - a. Recognition
 - b. Clear Communication
 - c. Challenging Assignments
 - d. Financial Incentives
 - a) c, b, a, d
 - b) b, c, a, d
 - c) d, a, c, b
 - d) a, b, c, d
3. Which factor is considered in the "Innovation and Technological Feasibility" of the design and construction process? CO2 [K₁]
 - a) Project cost estimation
 - b) Functional design
 - c) Industrialized construction
 - d) Project progress control
4. Match the cost type with its corresponding characteristic: CO3 [K₂]

List I	List II
A. Operating Costs	i. Allocation of joint costs
B. Contractors' Estimate	ii. Costs incurred during project execution
C. Clients' Estimate	iii. Client's prediction of project cost
D. Cost Indices	iv. Contractor's assessment of project cost

10. How is computerized organization related to the use of project information? CO5 [K₁]
- a) It focuses on project cost estimation. b) It involves the integration of stakeholders.
- c) It emphasizes the use of databases and applications. d) It primarily deals with project closure processes.

PART B (10 x 2 = 20 Marks)

11. List the different types of stakeholders involved in a construction project and outline their potential interests in the project. CO1 [K₂]
12. Identify the primary responsibilities of a project manager in a construction project, outlining the basic tasks and roles they play CO1 [K₂]
13. Define industrialized construction and provide examples of how it incorporates mass production techniques into the building process CO2 [K₂]
14. List two primary components of functional design in construction projects. CO2 [K₁]
15. Define "historical cost data" in the context of project cost estimation and provide a brief example of how it can be used in a construction project. CO3 [K₂]
16. Outline the steps involved in using cost indices for adjusting project estimates, emphasizing how they account for inflation and market trends CO3 [K₂]
17. List the common factors that contribute to disputes and claims in construction projects, highlighting potential sources of conflicts CO4 [K₂]
18. Define the term "Earned Value Management (EVM)" CO4 [K₁]
19. List the types of project information crucial for decision-making, emphasizing their relevance to project managers and team members CO5 [K₂]
20. Define centralized database management systems with example. CO5 [K₂]

PART C (6 x 5 = 30 Marks)

21. Evaluate the impact of effective project management on stakeholder satisfaction and project success, citing specific examples from construction industry practices 05 CO1 [K₃]
22. Analyze the potential challenges associated with charismatic leadership in construction projects, considering its implications on team dynamics and project outcomes 05 CO1 [K₃]
23. Describe the concept of modular construction in the context of design and construction, highlighting its advantages 05 CO2 [K₃]
24. Evaluate the impact of technological advancements in cost estimation software on the accuracy and reliability of project cost estimates, citing real-world examples 05 CO3 [K₅]

25. Describe the purpose of construction closure in project management, listing two key activities involved 05 CO4 [K₃]
26. Evaluate the advantages and disadvantages of centralized database management systems compared to decentralized systems in construction project information management 05 CO5 [K₂]

Answer any FOUR Questions
PART D (4 x 10 = 40 Marks)

27. Develop a comprehensive stakeholder management plan for a large-scale construction project, considering various strategies to address the identified challenges and foster positive stakeholder relationships. 10 CO1 [K₄]
28. Develop a comprehensive implementation plan for incorporating prefabrication into a specific construction project, addressing potential challenges and maximizing the benefits of this construction method 10 CO2 [K₄]
29. Analyze the limitations and challenges associated with relying on cost indices for project cost estimation, proposing alternative strategies for improving the accuracy of cost estimates 10 CO3 [K₃]

30. A Project schedule has the following characteristics as shown in the table, 10 CO4 [K₃]

Activity	Name	Time	Activity	Name	Time
1-2	A	4	5-6	G	4
1-3	B	1	5-7	H	8
2-4	C	1	6-8	I	1
3-4	D	1	7-8	J	2
3-5	E	6	8-10	K	5
4-9	F	5	9-10	L	7

- (i) Construct a network diagram
- (ii) Determine the total duration of the project
- (iii) Identify the critical path
- (iv) Tabulate all the project times
- (v) Calculate all types of float
31. Develop a communication strategy for improving information transfer and flow in a construction project, addressing identified challenges and incorporating technology-based solutions CO5 [K₄]
