KUMARAGURU
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Register Number:……

M.E DEGREE EXAMINATIONS: NOV/DEC 2023

(Regulation 2018)

Third Semester

CONSTRUCTION MANAGEMENT

P18CME0011**:** Construction Site Administration and Control

COURSE OUTCOMES

CO1: Plan job site layout for any construction project.

CO2: Overcome the factors affecting the project productivity.

CO3: Make the project communication with various agencies involved in the project.

CO4: Analyse the project escalations.

CO5: Control construction project.

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Arrange the following external factors impacting the construction industry in terms of their potential risk severity, from the highest to the lowest: CO1 [K_2]
   A) Political Instability
   B) Economic Fluctuations
   C) Technological Advances
   D) Environmental Regulations
   E) Market Demand
   a) D, A, B, C, E b) E, D, C, B, A
   c) C, B, A, E, D d) B, C, E, A, D

2. During which stage of the project life cycle is the contractor actively involved in executing the construction work? CO1 [K_1]
   a) Initiation b) Planning
   c) Execution d) Closure

3. What is the primary contribution of the Indian Construction Industry to the GDP? CO2 [K_2]
   a) 10% b) 15%
   c) 20% d) 25%

4. Matching type item with multiple choice code CO3 [K_2]

List I	List II
A. Weather Conditions	i. Resource-Related
B. Design Changes	ii. Regulatory
C. Permitting Issues	iii. Client-Initiated
D. Material Shortages	iv. External Factors

a) A) i, B) ii, C) iii, D) iv
b) A) iii, B) iv, C) i, D) ii
c) A) ii, B) i, C) iv, D) iii
d) A) iv, B) iii, C) ii, D) i

5. Put the following project delivery systems in the order of increasing integration between the design and construction phases: CO2 [K_2]

a) Design-Bid-Build, Design-Build, Construction Management at Risk
b) Design-Build, Design-Bid-Build, Construction Management at Risk
c) Construction Management at Risk, Design-Build, Design-Bid-Build
d) Design-Bid-Build, Construction Management at Risk, Design-Build

6. **Assertion:** Site Safety is a fundamental aspect of construction site management. CO3 [K_2]
Reason: Ensuring worker safety reduces the likelihood of accidents and enhances project efficiency.

a) Both Assertion and Reason are true, and the Reason is the correct explanation for the Assertion.
b) Both Assertion and Reason are true, but the Reason is not the correct explanation for the Assertion.
c) Assertion is true, but the Reason is false
d) Both Assertion and Reason are false.

7. **Assertion**: The Field Procedure Manual plays a crucial role in coordinating labor and subcontractors. CO4 [K_2]
Reason: It provides guidelines and procedures for efficiently managing on-site personnel.

a) Both Assertion and Reason are true, and the Reason is the correct explanation for the Assertion.
b) Both Assertion and Reason are true, but the Reason is not the correct explanation for the Assertion.
c) Assertion is true, but the Reason is false.
d) Both Assertion and Reason are false.

8. Why is "Waste Segregation" considering a crucial step in site waste management, as outlined in the Field Procedure Manual (FPM)? CO4 [K_2]

a) To minimize project costs.
b) To enhance workplace safety.
c) To efficiently remove waste from the
d) To reduce environmental impact.

construction site

9. Choose the correct statements from the following CO5 [K_2]

Statement 1: Case study analysis involves identifying challenges or issues.

Statement 2: Data Collection is a step in case study analysis that assesses collected data for insights.

Statement 3: Problem identification is not a part of case study analysis.

Statement 4: Solution proposal precedes data collection in case study analysis.

a) Statements 1 and 2 are true. b) Statements 3 and 4 are true.

c) Statements 1 and 3 are true. d) Statements 2 and 4 are true.

10. Choose the correct statements from the following CO5 [K_2]

Statement 1: Face-to-face meetings are suitable for monthly progress reviews in construction projects.

Statement 2: Project reports are effective for immediate or urgent information in construction projects.

Statement 3: Email is an ineffective communication channel for in-depth project analysis and summaries.

Statement 4: In-person interactions are not valuable for clarifications among project stakeholders.

a) Statements 1 and 2 are true. b) Statements 3 and 4 are true.

c) Statements 1 and 3 are true. d) Statements 2 and 4 are true.

PART B (10 x 2 = 20 Marks)

11. How do project delays impact sectors like residential construction and infrastructure development in the Indian construction industry? CO1 [K_2]

12. Assess the role of the environmental construction sector in sustainable development. CO1 [K_2]

13. Compare and contrast the Design-Build and Design-Bid-Build project delivery systems. CO2 [K_2]

14. Propose a project life cycle plan for a hypothetical construction project, specifying the roles of the client, consultant, and contractor in each stage. CO2 [K_2]

15. As a site manager, describe the steps you would take in job site layout to ensure efficient workflow and minimize accidents, providing specific examples. CO3 [K_3]

16. Assess the role of documentation in construction site management. CO3 [K_2]

17. How does the accuracy of project control estimates in the Field Procedure Manual impact effective project management? CO4 [K_2]

18.	Justify the inclusion of key sections like labor management and waste management in FPM.	CO4	[K_2]
19.	Assess the effectiveness of communication channels, like face-to-face meetings and email, in construction projects,	CO5	[K_2]
20.	How does implementing enterprise resource planning (ERP) principles enhance communication and streamline processes in construction projects?	CO5	[K_2]

PART C (6 x 5 = 30 Marks)

21.	Analyze the economic impact of the Indian Construction Industry on the country's GDP, considering the contributions of different sectors.	05	CO1	[K_3]
22.	Design a project life cycle plan for a large-scale infrastructure project, incorporating elements of both the Design-Build and Construction Management at Risk delivery systems. Justify your choices and describe the potential benefits.	05	CO2	[K_3]
23.	Develop a comprehensive plan for construction site safety, including measures for accident prevention, emergency response, and worker well-being. Illustrate how this plan can be adapted to various construction project scenarios.	05	CO3	[K_4]
24.	Evaluate the importance of labor and subcontractor management in the construction industry. Discuss strategies for effectively managing labor resources and subcontractors, considering the impact on project timelines and costs.	05	CO4	[K_3]
25.	Analyze the role of enterprise resource planning (ERP) in construction project communication. Illustrate how an ERP system can streamline communication, improve resource allocation, and enhance decision-making.	05	CO5	[K_3]
26.	Evaluate the challenges and opportunities faced by the Indian Construction Industry in the current market. Assess the role of technological advancements in addressing these challenges and fostering growth	05	CO1	[K_3]

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

27.	Create a strategic business plan for a construction company entering the Indian	10	CO1	[K_4]

market. Outline the key considerations, market analysis, risk management strategies, and financial projections. Justify your decisions with relevant data and industry trends.

28.	Evaluate the role of the client/owner, consultant, and contractor in different stages of a construction project life cycle. Discuss how effective collaboration among these stakeholders can contribute to successful project outcomes. Support your evaluation with case studies.	10	CO2	[K_4]
29.	Evaluate the ethical considerations in construction site management, considering the responsibilities of project managers towards workers, the environment, and local communities. Discuss how ethical decision-making can impact project success and reputation.	10	CO3	[K_3]
30.	Analyze the role of project escalations in the construction industry. Explore the causes of escalations, their impact on project budgets and timelines, and propose strategies for mitigating and managing escalations effectively.	10	CO4	[K_3]
31.	Evaluate the use of technology in project communication in construction. Discuss the advantages and disadvantages of communication tools such as Building Information Modeling (BIM) and project management software. Provide real-world examples to support your evaluation.	10	CO5	[K_3]

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