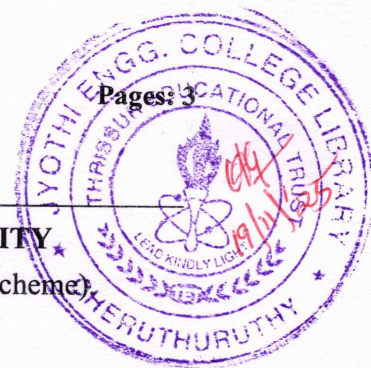


Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S7 (R,S) Examination November 2025 (2019 Scheme)

**Course Code: CET453****Course Name: CONSTRUCTION PLANNING AND MANAGEMENT****Max. Marks: 100****Duration: 3 Hours****PART A***Answer all questions, each carries 3 marks.***Marks**

- | | | |
|----|---|-----|
| 1 | Explain the relevance of construction project management. | (3) |
| 2 | What is float? Enumerate different types of float. | (3) |
| 3 | What are the benefits of using BIM to reduce errors and change orders in construction projects? | (3) |
| 4 | What are the objectives of Labour Welfare fund Act? | (3) |
| 5 | Explain the importance of inventory management in construction projects? | (3) |
| 6 | Explain the significance of safety inspections on construction sites. | (3) |
| 7 | What is cost-benefit analysis, and why is it important in project management? | (3) |
| 8 | What is E-Tendering? How does it streamline the tendering process? | (3) |
| 9 | Define financial management and explain its scope. | (3) |
| 10 | What is working capital? Why is it important for the smooth operation of a business? | (3) |

PART B*Answer any one full question from each module, each carries 14 marks.***Module I**

- | | | |
|----|---|-----|
| 11 | a) Discuss the different types of construction project organizations. | (7) |
| | b) Describe the concepts of resource smoothing and resource levelling in construction management. What is their role in managing project resources? | (7) |

OR

- | | | |
|----|--|------|
| 12 | a) Find out the optimum project cost and time. Their normal duration and costs along with crash costs and duration are given below. Project overhead cost is Rs 350 per day. | (14) |
|----|--|------|

Activity	Normal duration	Normal cost	Crash duration	Crash cost
1-2	8	800	5	1000
1-3	6	600	4	850
1-4	9	700	6	1300
2-5	10	900	8	1150
3-5	6	800	4	1100
3-6	7	1200	6	1400
4-6	8	1300	6	1650
5-7	3	500	2	700
6-7	4	600	3	950
7-8	4	500	2	1000

Module II

- 13 a) Provide a detailed explanation of the different dimensions of BIM, such as 3D, 4D, and 5D. How do they contribute to the overall project execution? (7)
- b) Discuss the various labour legislations relevant to the construction industry. (7)
- Explain the key provisions of the Payment of Wages Act and Minimum Wages Act.

OR

- 14 a) How does BIM enhance collaboration and communication among stakeholders in the construction industry? Discuss with examples. (7)
- b) Explain the significance of the Workmen's Compensation Act in the construction industry. How does it protect workers, and what are the employer's responsibilities under this Act? (7)

Module III

- 15 a) Discuss the causes of accidents on construction sites. What preventive safety measures can be implemented to reduce accidents? (7)
- b) How does the practice of material codification assist in streamlining stores and inventory management? (7)

OR

- 16 a) Define under-manning and over-manning. Discuss their effects on construction project schedules, costs, and quality. (7)
- b) Explain the process and significance of recruitment and training in construction projects. How do they contribute to overall project success? (7)

Module IV

17 a) Discuss the economic analysis of projects, focusing on NPV, Rate of return analysis, and Cost-benefit analysis. How do these methods help in project evaluation? (7)

b) Describe the contract documents and conditions of contract. Why are they important for a successful construction project? (7)

OR

18 a) Explain the terms "Administrative Approval" and "Technical Sanction" in the context of construction contracts. How do they affect project execution? (7)

b) Discuss the key accounting terms in construction management, such as "Work Register," "Cash Book," and "Muster Roll." How do these terms contribute to proper financial management? (7)

Module V

19 a) Explain how financial statement analysis is conducted. How does it help in assessing the financial health of an organization? (7)

b) What is funds flow analysis? Explain its relevance in understanding an organization's financial activities and planning future investments. (7)

OR

20 a) Explain the various mechanisms through which Infrastructure projects are financed in India. (7)

b) Discuss the different types of budgets used in budgetary control systems, and explain their importance in managing a project's finances. (7)
