

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Seventh Semester B.Tech Degree Examination December 2022 (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 | Differentiate resource smoothing and resource levelling | (3) |
| 2 | Explain the roles and responsibilities of any three members of a construction team. | (3) |
| 3 | Define BIM. | (3) |
| 4 | What are the phases of life cycle of a building? Briefly explain. | (3) |
| 5 | Define holding cost for an inventory. How does it vary with the ordering quantity? | (3) |
| 6 | Discuss the importance of safety inspection at site. | (3) |
| 7 | Define a) Earnest Money Deposit b) Secured Advance c) Mobilization advance | (3) |
| 8 | What is the concept of time value of money? | (3) |
| 9 | Differentiate fixed and flexible budgets. | (3) |
| 10 | What are the important financial statements in accounting? | (3) |

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

- 11 a) What is crashing the network? What is the significance of crashing? Explain various steps involved in crashing a network. (7)
- b) Discuss matrix organization for construction projects (7)
- OR**
- 12 a) A small project consists of activities listed below. If the indirect cost is Rs. 190/day what is the optimum duration and cost of the project. (7)

Activity	Duration (days)		Direct Cost (Rs)	
	Normal	Crash	Normal	Crash
P (1,2)	7	6	250	350
Q (1,3)	10	8	350	500
R (2,3)	5	3	300	400
S (3,4)	9	8	700	950

- b) Explain functional organization structure for a construction project. (7)

Module II

- 13 a) Elaborate on the benefits of adopting BIM in construction industry (7)
b) Elaborate on the utilization of the labour welfare fund as per the Kerala Labour Welfare Fund Act 1975. (7)

OR

- 14 a) What is clash detection in BIM? What is its significance? (7)
b) Elaborate on the situations under 'employers liability for compensation' in the Workmen's Compensation Act 1923. (7)

Module III

- 15 a) What are the various methods for recruitment of construction personnel? (7)
b) Elaborate the method of ABC analysis for inventory control. (7)

OR

- 16 a) Discuss the suitable levels of training for construction workers. (7)
b) Discuss the elements of quality control for a construction project. (7)

Module IV

- 17 a) As per CPWD General Conditions of Contract, explain the action required if the contractor fails to complete the work within the stipulated date of completion and does not complete them within the period specified in a notice given in writing to the Engineer-in-charge. (7)
b) Elaborate on the contents of a tender package. (7)

OR

- 18 a) Discuss the NPV method of economic analysis of construction projects. (7)
b) Discuss the clauses for penalty for contractor due to delay in works as per CPWD conditions of contract. (7)

Module V

- 19 a) Differentiate a balance sheet and a cash flow statement? How do they complement each other? (7)
b) Discuss the finance mechanisms for infrastructure projects in the country. (7)

OR

- 20 a) Differentiate aggressive and conservative policies of working capital management. (7)
b) Explain the significance of liquidity ratios in finance management (7)

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Seventh Semester B.Tech Degree (S, FE) Examination May 2023 (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

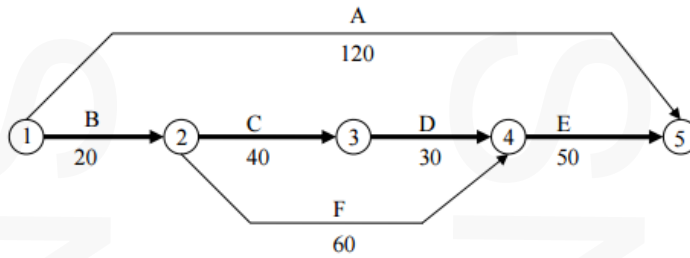
- | | | |
|----|---|-----|
| 1 | What are the advantages of adopting functional organization for a construction company? | (3) |
| 2 | How do you identify the critical path of a construction network diagram? | (3) |
| 3 | Differentiate minimum time rate and minimum piece rate according to Minimum Wages Act. | (3) |
| 4 | What are the objectives of Contract Labour Act? | (3) |
| 5 | Why is sampling important for construction quality control? | (3) |
| 6 | What are the types of construction labourers? | (3) |
| 7 | Differentiate open and selective tendering. | (3) |
| 8 | Discuss the purpose of special conditions of contract. | (3) |
| 9 | Define working capital. | (3) |
| 10 | What are Special Finance Institutions? | (3) |

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

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|----|--|-----|
| 11 | a) With the help of histogram, explain the difference between resource levelling and resource smoothing. | (7) |
| | b) Discuss the responsibilities of a contractor in a construction project. | (7) |

OR

- 12 a) The following table gives the data for the duration and costs of each activity of a project network as shown in figure. Find the minimum possible time and cost for the project after crashing. Consider indirect cost of 300 Rs/day. (7)



Activity	Normal duration (days)	Crash Duration (days)	Normal Cost	Crash Cost
A	120	100	12000	14000
B	20	15	1800	2800
C	40	30	16000	22000
D	30	20	1400	2000
E	50	40	3600	4800
F	60	45	13500	18000

- b) Construction estimators are one of the most crucial players in the construction process. Elaborate. (7)

Module II

- 13 a) How does BIM improve construction schedule management? (7)
- b) Discuss the provisions for fixing minimum rates of wages to employees, as per the Minimum Wages Act 1948. (7)

OR

- 14 a) Describe model based estimation using BIM in construction projects. (7)
- b) Elaborate on the deductions that may be made from wages, as per the Payment of Wages Act 1936. (7)

Module III

- 15 a) Discuss the advantages of material codification for improving inventory management. (7)
- b) Discuss the causes for accidents on construction sites. (7)

OR

- 16 a) Discuss the important documentation for inventory management at construction site. (7)

- b) Discuss the relevance of Economic Order Quantity for proper inventory management. (7)

Module IV

- 17 a) List the items that are included in a contract document. Explain any three in detail. (7)
b) Elaborate on the process of e-tendering for construction projects. (7)

OR

- 18 a) Explain NPV method of economic analysis and its suitability in construction projects. (7)
b) Elaborate the method and suitability of cost-benefit analysis of projects (7)

Module V

- 19 a) Discuss the major categories of financial institutions in India. (7)
b) Elaborate on the contents of balance sheet giving examples. (7)

OR

- 20 a) Elaborate on equipment, crew and estimator as profit centres for construction projects. (7)
b) What is a working capital operating cycle? Elaborate with a neat diagram. (7)
