

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S8 (S, FE) / S6 (PT) (S, FE) Examination May 2024 (2015 Scheme)

**Course Code: CE404****Course Name: CIVIL ENGINEERING PROJECT MANAGEMENT**

Max. Marks: 100

Duration: 3 Hours

PART A*Answer any two full questions, each carries 15 marks.*

Marks

- 1 a) Differentiate between bar charts and network diagrams used for project scheduling. (5)
- b) The following are the duration of activities in a network. Draw the network. (10)
- Determine the critical path and project completion time. Tabulate the total float, free float and interfering float values.

Activity	A	B	C	D	E	F	G
Predecessors	-	-	A	B	B	C, D	E
Duration (weeks)	11	6	8	11	7	8	6

- 2 a) Differentiate between resource smoothing and resource levelling. (5)
- b) A small project consists of the activities listed below. If the indirect cost is Rs 1900/day, what is the optimum and minimum (all crash) duration of the project? (10)

Activity	Predecessors	Duration (days)		Direct Cost (Rs)	
		Normal	Crash	Normal	Crash
P (1,2)	-	7	6	2500	3500
Q (1,3)	-	10	8	3500	5000
R (2,3)	P	5	3	3000	4000
S (3,4)	Q, R	9	8	7000	9500

- 3 a) Discuss the benefits of codification for material management. (5)
- b) The following table lists the jobs network along with time estimates. Draw the network and tabulate each activity event time. Determine the critical path and project completion time with 50% probability. (Time in weeks) (10)

Activity	1-2	1-3	2-3	2-4	2-6	3-4	3-5	4-5	4-6	5-6
t_o	2	1	0	2	5	3	3	4	2	2
t_m	5	4	0	4	7	5	6	6	5	4
t_p	8	7	0	6	12	10	9	10	8	6

PART B

Answer any two full questions, each carries 15 marks.

- 4 a) What is a Project Master Budget? What are its constituents? (6)
b) Elaborate on the application of Project Management Information System (PMIS) for a construction project. (9)
- 5 a) Explain how Professional Bodies can play a significant role in maintaining ethics in Construction Industry. (6)
b) Explain any three modes of settlement of disputes in construction projects. (9)
- 6 a) Discuss the role of professional ethics in achieving high-quality construction projects. (6)
b) Elaborate on the various types of budgets in construction projects. (9)

PART C

Answer any two full questions, each carries 20 marks.

- 7 a) Explain the inventory-related cost components and elaborate on the concept of Economic Order Quantity (EOQ). (10)
b) Discuss the elements of implementing quality control in a construction project. (10)
- 8 a) Explain the significance of inventory control policies for materials. Describe ABC analysis for selective inventory control. (10)
b) Explain the process of tendering with prequalification, with a neat flow chart. What is the purpose of prequalification? (10)
- 9 a) Explain the elements of implementing safety management measures for a construction project. (10)
b) Compare Lump sum, Item rate and Design Build type of contracts. (10)
