U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

June 2025 Semester End Main Examinations

Programme: B.E. **Semester: VI**

Branch: Civil Engineering **Duration: 3 hrs.**

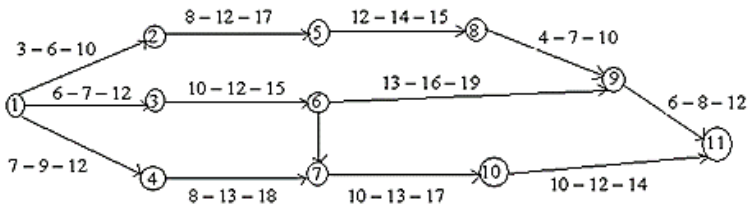
Course Code: 23CV6AEPMF **Max Marks: 100**

Course: Project Management and Finance

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.
3. Use of discrete compounding interest factor tables is permitted.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

			CO	PO	Marks
		UNIT - I			
1	a)	Describe the concept and essentials of project management as a philosophy.	*CO1*	*PO10*	**10**
	b)	Discuss the life cycle of a project at various stages using a neat diagram.	*CO 1*	*PO10*	**10**
		OR			
2	a)	Discuss the several types of project management and projects.	*CO 1*	*PO 10*	**10**
	b)	Elaborate on the role of a project manager considering a successful completion of a construction project as a case study.	*CO 1*	*PO 10*	**10**
		UNIT - II			
3	a)	Elucidate on significance and development of Work Breakdown Structure (WBS) taking an example of a construction project	*CO 1*	*PO 10*	**10**
	b)	Compare the different types of Organization breakdown structure. Highlight merits and demerits of each types.	*CO 1*	*PO 10*	**10**
		OR			
4	a)	Explain the elements of project constraints.	*CO 1*	*PO 10*	**06**
	b)	Elaborate on the meaning and types of measurement of productivity.	*CO 1*	*PO 10*	**06**
	c)	Explain briefly various steps for effective resource management in construction projects.	*CO 1*	*PO 10*	**08**
		UNIT - III			
5	a)	Describe the elements of a network diagram. Explain AOA and AON type of network diagrams with suitable examples.	*CO 1*	*PO 10*	**10**

		b)	A construction project has the following time schedules shown in table 5 (b). Construct the network, identify the critical path and total floats. Table 5(b) **Activity** / **Duration (in weeks)** 1-2 / 5 1-3 / 6 1-4 / 3 2-5 / 5 3-6 / 7 3-7 / 10 4-7 / 4 5-8 / 2 6-8 / 5 7-9 / 5 8-9 / 4	*CO 1*	*PO 10*	**10**
			OR			
	6	a)	Explain the following terminologies – Earliest start time, Earliest finish time, Latest start time, Latest finish time and Floats.	*CO 2*	*PO 10*	**05**
		b)	Compare CPM and PERT network analysis tools.	*CO 2*	*PO 10*	**05**
		c)	The network for a construction project with the three time estimates of each activity marked is given below in Fig 6 (c). Calculate the variance and expected time of each activity.  Figure 6(c)	*CO 2*	*PO 10*	**10**
			UNIT - IV			
	7	a)	Explain the objectives of 'project crashing' and how is it different from project fast-tracking?	*CO 3*	*PO 10*	**10**
		b)	Discuss the importance of Capital budgeting and its process.	*CO 3*	*PO 10*	**10**
			OR			
	8	a)	What do you mean by 'time-cost' trade-off analysis? Give reason to state its relevance and importance to construction projects.	*CO 3*	*PO 10*	**10**
		b)	Explain the cost controlling techniques used in project management.	*CO 3*	*PO 10*	**10**

<table>
<tr><td></td><td></td><td></td><td>UNIT - V</td><td></td><td></td><td></td></tr>
<tr><td></td><td>9</td><td>a)</td><td>Elaborate on the factors affecting working capital management.</td><td>CO 3</td><td>PO 10</td><td>08</td></tr>
<tr><td></td><td></td><td>b)</td><td>Two alternatives for purchase of transit mixer having same useful life is proposed shown in table 9 (b)
Table 9 (b)<table><tr><td>Alternative – 1 :
Initial purchase cost = Rs. 6,00,000/-
Annual O & M cost = Rs. 40,000/-
Expected salvage value = Rs 2,50,000/-
Useful life = 5 years</td><td>Alternative – 2 :
Initial purchase cost = Rs. 4,00,000/-
Annual O & M cost = Rs. 70,000/-
Expected salvage value = Rs 1,40,000/-
Useful life = 5 years</td></tr></table>Using present worth method, find out which alterative should be selected, if the rate of interest is 10% per year. Draw cash flow diagrams.</td><td>CO 3</td><td>PO 10</td><td>12</td></tr>
<tr><td></td><td></td><td></td><td>OR</td><td></td><td></td><td></td></tr>
<tr><td></td><td>10</td><td>a)</td><td>Discuss the various types of project appraisals with their applications.</td><td>CO 3</td><td>PO 10</td><td>10</td></tr>
<tr><td></td><td></td><td>b)</td><td>Briefly explain payback comparison method.</td><td>CO 3</td><td>PO 10</td><td>05</td></tr>
<tr><td></td><td></td><td>c)</td><td>The rights to a patent have been sold under an agreement in which annual year end payments of Rs. 400,000/- are to be made for the next 10 years. What is the future sum of this annuity? What is the present worth of the annuity at an interest rate of 7 percent?</td><td>CO 3</td><td>PO 10</td><td>05</td></tr>
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