U.S.N.										

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

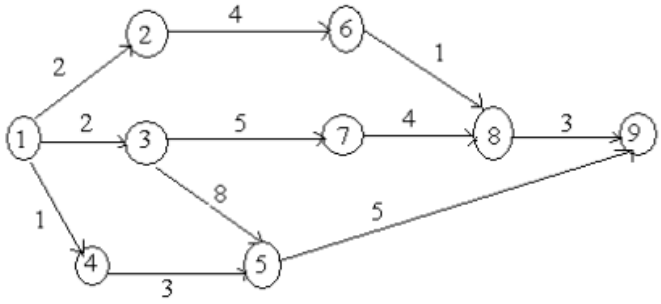
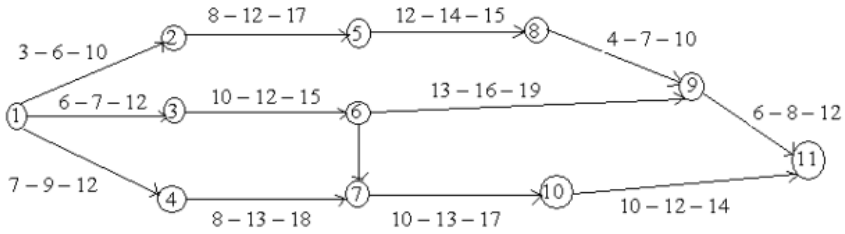
Autonomous Institute Affiliated to VTU

January / February 2025 Semester End Main Examinations

Programme: UG **Semester: VII**
Branch: Civil Engineering **Duration: 3 hrs.**
Course Code: 22CV7HSCPM **Max Marks: 100**
Course: Construction Project Management and Economics

Instructions: 1. Answer any FIVE full questions selecting one full question from each unit.
2. Standard normal distribution table and interest factor tables are permitted.

				CO	PO	Marks
			UNIT - I			
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.	1	a)	Discuss in detail the nature and scope of project management.	CO1	1,11	**10**
		b)	Illustrate briefly the various types of construction projects.	CO1	1,11	**10**
			OR			
	2	a)	Elaborate on the basic principles of construction project management.	CO1	1,11	**10**
		b)	Enumerate on the various factors to be considered for choosing construction project management as a profession.	CO1	1,11	**10**
			UNIT - II			
	3	a)	Illustrate with an example the concept of work break down structure for a commercial building.	CO1	1,11	**10**
		b)	Explain the different types of organizational structure.	CO1	1,11	**10**
			OR			
	4	a)	Illustrate the project feasibility studies to be carried out for finalizing a construction project.	CO1	1,11	**10**
		b)	Elaborate the various project constrains encountered in a large-scale construction project.	CO1	1,11	**10**
			UNIT - III			
	5	a)	Discuss the significance, relative merits and demerits of Bar Charts, CPM and PERT.	CO1	1,11	**10**
		b)	Draw the network and determine the critical path for the activities shown.	CO1	1,11	**10**

			<table><tr><th>Activity</th><th>Times in weeks</th><th>Activity</th><th>Times in weeks</th></tr><tr><td>(1 – 2)</td><td>4</td><td>(5 – 7)</td><td>8</td></tr><tr><td>(1 – 3)</td><td>1</td><td>(6 – 8)</td><td>1</td></tr><tr><td>(2 – 4)</td><td>1</td><td>(7 – 8)</td><td>2</td></tr><tr><td>(3 – 4)</td><td>1</td><td>(8 – 9)</td><td>1</td></tr><tr><td>(3 – 5)</td><td>6</td><td>(8 – 10)</td><td>8</td></tr><tr><td>(4 – 9)</td><td>5</td><td>(9 – 10)</td><td>7</td></tr><tr><td>(5 – 6)</td><td>4</td><td></td><td></td></tr></table>			
			OR			
6	a)	Determine the critical path for the network shown below. 	CO1	1,11	**10**
	b)	Calculate the variance and the expected time for the network shown below. 	CO1	1,11	**10**
			UNIT – IV			
7	a)	Elucidate with an example the resource management plan for a construction project.	CO2	1,11	**10**
	b)	Illustrate the significance of cost control in construction industry.	CO2	1,11	**10**
			OR			
8	a)	Enumerate the steps involved in risk analysis for a construction project.	CO2	1,11	**10**
	b)	Explain the importance and key components of construction material management.	CO2	1,11	**10**
			UNIT - V			
9	a)	Discuss briefly the evaluation criteria for a capital investment proposal.	CO3	1,11	**10**

		b)	A Material testing laboratory has two alternatives for purchasing a compression testing machine. The alternatives are from two different manufacturing companies. The cash flow details of the alternatives are as follows. **Alternative 1 -** Initial purchase cost – Rs 1000000, Annual operating and maintenance cost – Rs 10000, Annual income generated- Rs 175000, Expected Salvage value – Rs 200000, Useful Life – 10 years. **Alternative 2 -** Initial purchase cost – Rs 700000, Annual operating and maintenance cost – Rs 15000, Annual income generated- Rs 165000, Expected Salvage value – Rs 250000, Useful Life – 5 years. Using present worth method find out what alternative should be selected if the rate of interest is 10% per year	CO3	1,11	**10**
			OR			
	10	a)	Define working capital management. Explain the importance and objectives of working capital management.	CO3	1,11	**10**
		b)	A person has taken a loan amount of Rs 10,000 from a bank for a period of 5 years. Estimate the amount of money the person will repay to the bank at the end of 5 years for considering simple interest rate and compound interest rate of 8% per year.	CO3	1,11	**10**

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