U.S.N.										

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

Autonomous Institute Affiliated to VTU

July 2023 Semester End Main Examinations

Programme: B.E. **Semester: VIII**
Branch: Civil Engineering **Duration: 3 hrs.**
Course Code: 21CV8HSCEP **Max Marks: 100**
Course: Construction Project Management, Economics and Professional Ethics **Date: 04.07.2023**

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.

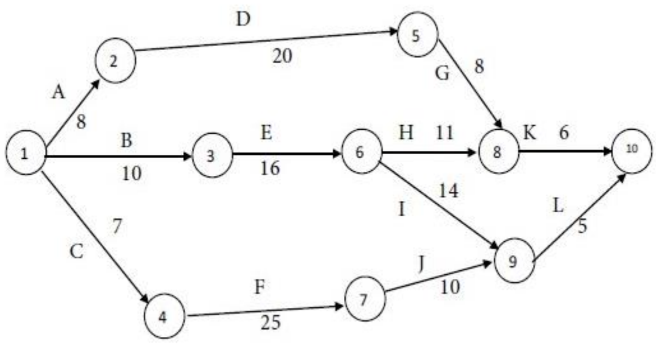
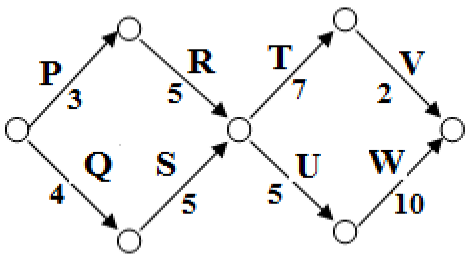
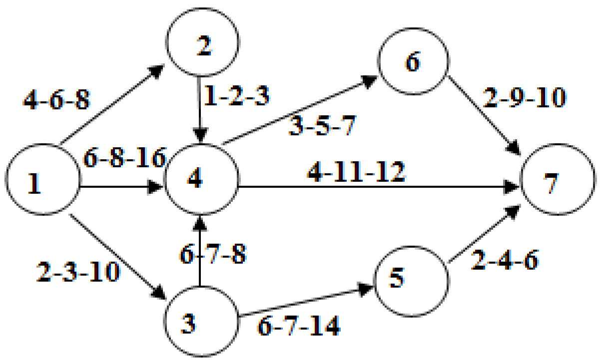
Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

			UNIT - I	*CO*	*PO*	Marks
1	a)		'A work breakdown structure is a visual, hierarchical and deliverable oriented deconstruction of project'. Demonstrate this sentence with the help of suitable example.	*CO1*	*PO11*	**10**
	b)		For the details provided in Table 1, develop a network diagram Table 1	*CO1*	*PO11*	**10**

Activity ID	Predecessor	Successor	Duration (days)
A	-	D,E	12
B	-	I	13
C	-	G	14
D	A	K,J	12
E	A	F	11
F	E	I	6
G	C	H	10
H	G	I	5
I	K,F,B,H	-	9
J	D	-	4
K	D	I	5

			UNIT - II			
2	a)		Activities A, B, C and D form the critical path for a project in a PERT network. The mean expected duration and variance for each activity are listed in Table 2. Estimate the probability that the project will be completed within 45 days. Table 2	*CO1*	*PO11*	**6**

Activity	A	B	C	D
T_e	6	11	8	15
Variance	4	9	4	9

		b)	For the network diagram in Figure 1, determine the completion time and the critical activities.  Figure 1	*CO1*	*PO11*	**14**
			OR			
	3	a)	Determine the critical path for the network shown below considering the data provided in Figure 2  Figure 2	*CO1*	*PO11*	**8**
		b)	For the network diagram shown in Figure 3, find the probability that the project is completed in 19 days. Also, find the probability of completing it in 24 days.  Figure 3	*CO1*	*PO11*	**12**
			UNIT - III			
	4	a)	With an example discuss importance of resource planning in a construction project.	*CO2*	*PO11*	**10**
		b)	Highlight any 5 features of BIM software which makes it an effective tool for construction project management tool.	*CO2*	*PO11*	**10**

			UNIT - IV			
	5	a)	Your client is 40 years old and wants to begin saving for retirement. You advise the client to put Rs. 5,000 a year into the stock market. You estimate that the market's return will be on average of 12% a year. Assume the investment will be made at the end of the year. How much money will she have by age 65. `Considering he had invested a decade earlier, how much would he have accumulated considering the above investment plan.	*CO2*	*PO11*	**8**
		b)	Elaborate on working capital management with a sketch. Discuss the main objectives of the process.	*CO2*	*PO11*	**12**
			OR			
	6	a)	What is the present value of an annuity of Rs. 3,000 per year, with the first cash flow received five years from today and the last one received eleven years from today? Use a discount rate of eight percent. Draw the cash flow diagram.	*CO2*	*PO11*	**8**
		b)	Establish the difference between regular accounting and construction accounting. List the different methods of construction accounting.	*CO2*	*PO11*	**12**
			UNIT - V			
	7	a)	Discuss any five principles of professional ethics essential for a civil engineer.	*CO2*	*PO8*	**10**
		b)	Demonstrate any five forms of unethical practices in construction industry.	*CO2*	*PO8*	**10**

****