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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2025

B.Tech-V Semester (CE)

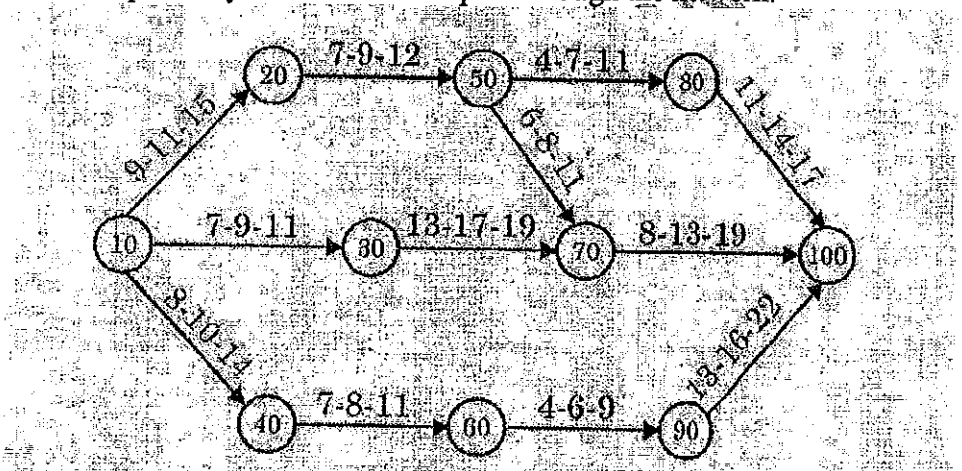
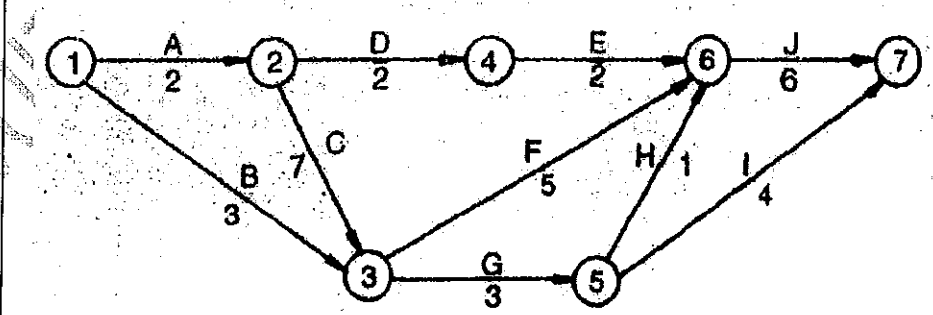
COURSE CODE (CREDITS): 18B1WCE531 (3) MAX. MARKS: 25

COURSE NAME: CONSTRUCTION TECHNOLOGY AND MANAGEMENT

COURSE INSTRUCTORS: Dr. KAUSHAL KUMAR MAX. TIME: 1 Hour 30 Min

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	CO	Marks
Q1	In the following network, the optimistic, the most likely and the pessimistic time estimates are given for each activity. If 10 and 100 is the start and end events respectively. Find the critical path through the network. 		6
Q2	The network of a certain projects is shown below. Calculate ***(a)*** Total Float ***(b)*** Free Float ***(c)*** Independent Float ***(d)*** Project duration and identify critical path for both the projects. 		6
Q3	From the given table below, find project's minimum cost and time corresponding to min. cost.		7

Activity	Normal Duration (weeks)	Normal Cost (Rs.)	Crash Duration (weeks)	Crash cost (Rs.)
1 - 2	7	7000	3	14500
1 - 3	8	4000	5	8500
2 - 3	5	6000	1	9000
2 - 4	5	8000	3	15000
3 - 4	6	5000	3	11000

The overhead cost of project is Rs. 3000 per week. Draw time-scale curve for each stage.

Q4. Consider the network diagram shown below. Level out the requirement of the resources, if the maximum number of labour, on any day , has to be limited to **10**. Draw the allocation of resources before and after Leveling operation on ***Graph Paper***. 6