JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2025

M.Tech-I Semester CE

COURSE CODE (CREDITS):10M11CE113 (3) MAX. MARKS: 25

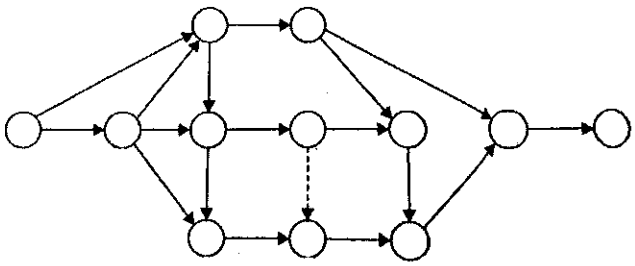
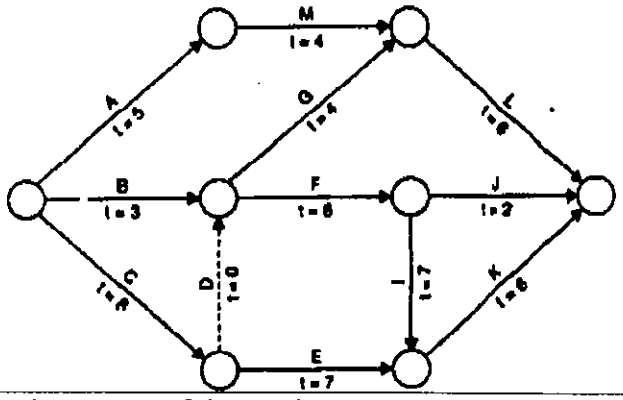
COURSE NAME: Construction Planning and Control

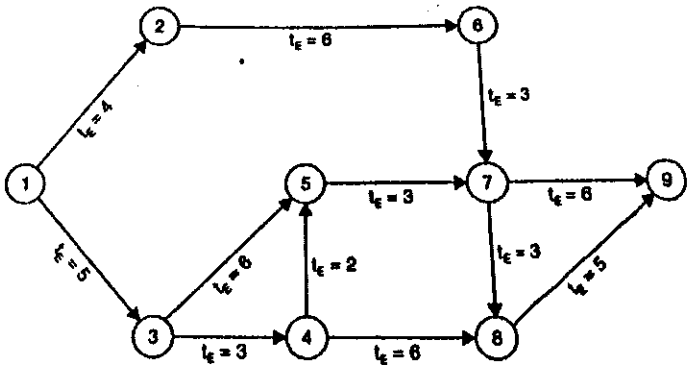
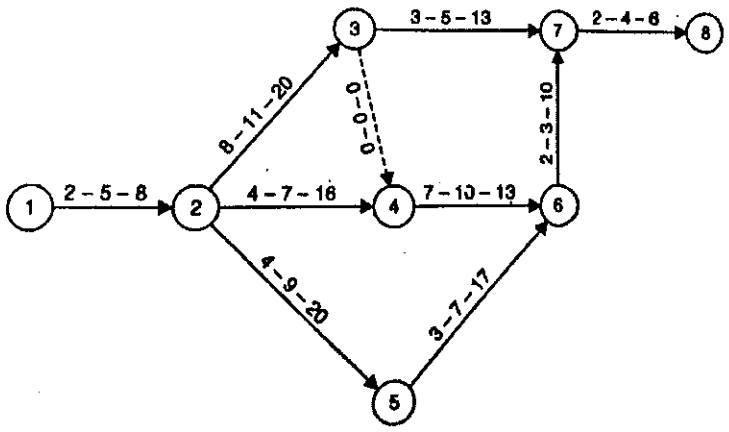
COURSE INSTRUCTORS: Akash Bhardwaj MAX. TIME: 1 Hour 30 Min

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

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

(c) Scientific calculator allowed.

Q.No	Question	Marks
Q1	Using Fulkerson's rule, number the events in the following network diagrams –  	3+3
Q2 (a)	Explain the three types of time estimates used in PERT.	2
Q2 (b)	An activity has the following time estimates: • Optimistic time (to) = 4 days • Most likely time (t_L) = 8 days • Pessimistic time (tp) = 16 days (a) Calculate the expected time (te) and variance (σ^2) for this activity.	4

	(b) Interpret the results. (c) Plot the distribution curve and identify the curve.	
Q3 (a)	The following data represent two activities: Activity | to | t_L | tp X | 3 | 6 | 15 Y | 4 | 5 | 6 (a) Compute the expected time and variance for both. (b) Compare their reliability and risk.	3
Q3 (b)	The expected time of completion (in days) for each activity of a network is shown in figure below. Determine the critical path and show on network diagram. It is given that the scheduled completion time is 21 days. 	4
Q4	For the network diagram shown below with three time estimates of each activity marked. Determine: i. Critical path show it on network diagram and its standard deviation. ii. Probability of completion of project in 40 days. 	6