JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -2 EXAMINATION- 2024
B.Tech-V Semester (CE)
COURSE CODE (CREDITS): 18B1WCE531(3)   MAX. MARKS: 25
COURSE NAME: CONSTRUCTION TECHNOLOGY AND MANAGEMENT
COURSE INSTRUCTORS: Mr. Kaushal Kumar   MAX. TIME: 1 Hour 30 Minutes
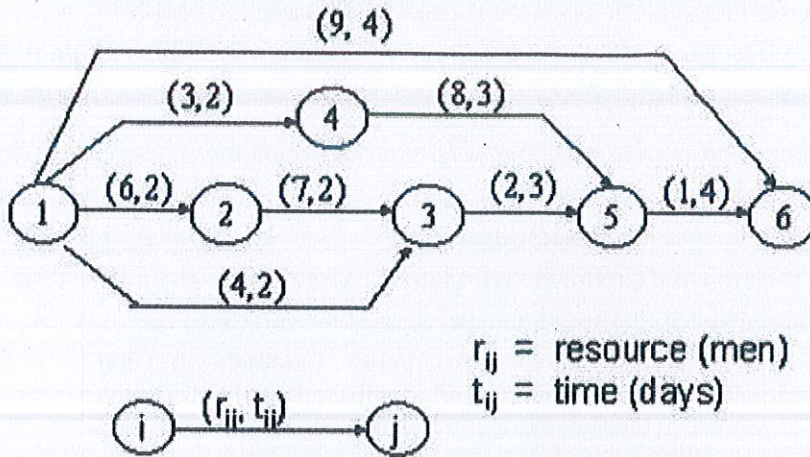
Note: (a) All questions are compulsory.
        (b) The candidate is allowed to make Suitable numeric assumptions wherever required
            for solving problems

Q.No	Questions	CO	Mark
Q1	What are the Benefits of the Critical Path Method, Also Discuss about its limitations and drawbacks? Differentiate between CPM and PERT.	CO-2	5
Q2	The network of a certain projects is shown below. Calculate (a) Total Float (b) Free Float (c) Project duration and identify critical path for the projects.	CO-2, CO-4	6
Q3	(a) What do you understand by updating? Why is it essential? (b) Explain different methods of time-cost optimization of project network. What is Crashing?	CO-2, CO-4	4
Q4	From the given table below, find project's minimum cost and time corresponding to min. cost.	CO-2, CO-4	5

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.

Q5	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*.		CO-2, CO-4	5

r_{ij} = resource (men)
t_{ij} = time (days)