

- Draw the network diagram and find the critical path from the following PERT network.

	Optimistic time (days)	Most likely time (days)	Pessimistic time (days)
1-2	1	2	3
1-3	5	6	7
1-4	3	5	7
2-5	5	7	9
3-5	2	4	6
5-6	4	5	6
4-7	4	6	8
6-7	2	3	4

- A small project is composed of 7 activities whose time estimates are listed in the table as follows:

Activity		Estimated duration (weeks)		
i	j	Optimistic	Most likely	Pessimistic
1	2	1	1	7
1	3	1	4	7
1	4	2	2	8
2	5	1	1	1
3	5	2	5	14
4	6	2	5	8
5	6	3	6	15

- Draw the project network.
- Find the expected duration and variance of each activity.
- Calculate the early and the late occurrence times for each event. What is the expected project length?
- Calculate the variance and standard deviation of project length.

The following is for setting up a testing facility. The list of activities, with their preceding activities, time and cost data, is as given below:

Activity	Preceding Activities	Normal		Crash	
		Time In weeks	Cost (Rs.)	Time in weeks	Cost (Rs.)
A	-	9	12,000	6	18,000
B	A	14	14,000	4	24,000
C	A	4	2,000	3	2,400
D	C	6	44,000	4	56,000
E	-	14	16,000	13	1,800
F	E	6	4,000	6	4,000

G	B,D	5	4,000	3	4,800
H	F,G	2	12,000	1	14,000

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Crash the project to optimum schedule.