SEM VI

CRITICAL PATH METHOD

Q.1) Obtain ES, EF, LS and LF time for the following activity schedule for a project – Also calculate Total Float, Free Float and Independent Float for these activities.

Activity	1 - 2	1-3	1-4	3-5	4-5	2-6	5-6	5-7	6-8	7-8	8-9
Duration	8	5	13	12	6	6	7	9	8	2	6
(weeks)											

Answer:

ACT	DUR	ES	EF	LS	LF	HS	TS	TF	FF	INDF	INTF
1-2	8										
1-3	5										
1-4	13										
3-5	12										
4-5	6										
2-6	6										
5-6	7										
5-7	9										
6-8	8										
7-8	2										
8-9	6										

Q.2) A Small assembly plant assembles PC's through 9 interlinked activities. The time duration for which is given below:

Activity	1 - 2	1-3	1-4	2-5	3-6	3-7	4-6	5-8	6-9	7-8	8-9
Duration	2	2	1	4	8	5	3	1	5	4	3

a. Draw a Network diagram for it.

b) Calculate and tabulate for each activity: Earliest start (ES), Earliest finish (EF), Latest Start (LS) and Latest Finish (LF) times.

c) Find the critical path.

d) Calculate and tabulate Total Float, Free Float, Interfering Float and Independent Float. **Answer:**

ACT	DUR	ES	EF	LS	LF	HS	TS	TF	FF	INDF	INTF
1-2	2										
1-3	2										
1-4	1										
2-5	4										
3-6	8										
3-7	5										
4-6	3										
5-8	1										
6-9	5										
7-8	4										
8-9	3										

Q.3) **Determine:**

a. Earliest Start time. b. Earliest finish time. c. Latest start time d. Latest finish time. e. Free Float f. Total Float, and g. Independent float.

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Activity	1-2	1-3	1-4	2-5	3-5	3-6	3-7	4-6	5-7	6-8	7-8
Duration	2	7	8	3	6	10	4	6	2	5	6

Answer:

ACT	DUR	ES	EF	LS	LF	HS	TS	TF	FF	INDF
1-2	2									
1-3	7									
1-4	8									
2-5	3									
3-5	6									
3-6	10									
3-7	4									
4-6	6									
5-7	2									
6-8	5									
7-8	6									

Q.4) Activities involved in a small project are given below with relevant information

Activity	1-2	1-3	2-3	2-4	3-4	4-5
Duration	20	25	10	12	6	10
	4	. ~				

- Construct the Network and find Critical Path
- Find and tabulate ES,EF,LS, LF and TF

Answer:

ACT	DUR	ES	EF	LS	LF	TF
1-2						
1-3						
2-3						
2-4						
3-4						
4-5						