

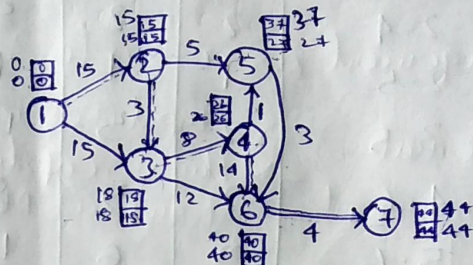
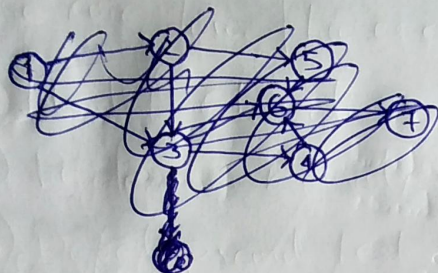
Level 4: Managed  
Level 5: Optimizing

## CPM [Critical Path Method]

~~Construct~~

Activity	1-2	1-3	2-3	2-5	3-4	3-6	4-5	4-6	5-6	6-7
Duration (Days)	15	15	3	5	8	12	1	14	3	4

1) Construct Network Diagram:

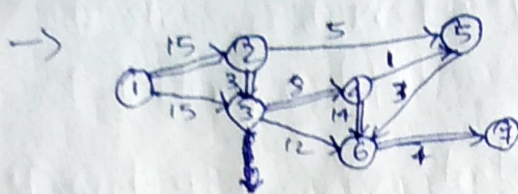


2)

Activity	time	Earliest start time	Earliest finish time	Lat start time	Lat fin time	Tot float	Slop time	Free float
1-2	15	0	15	0	15	0	15	0
1-3	15	0	15	3	18	3	18	3
2-3	3	15	18	15	18	0	18	0
2-5	5	15	20	32	37	17	27	7
3-4	8	18	26	18	26	0	26	0
3-6	12	18	30	28	40	10	40	10
4-5	1	26	27	36	37	10	27	0
4-6	14	26	40	26	40	0	40	0
5-6	3	27	30	37	40	10	40	10
6-7	4	40	44	40	44	0	44	0



3) Calculate critical path and project duration



So, the critical path is  $\Rightarrow 1-2-3-4-6-7$

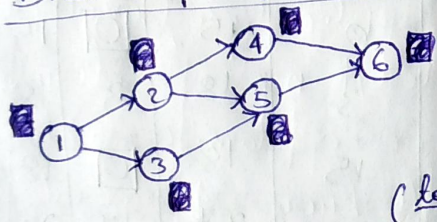
$\therefore$  Total project duration =  $15 + 3 + 12 + 3 + 4 = 44$  days

4) Calculate Total Float and Free Float.

PERT

Activities	$t_o$	$t_m$	$t_p$
1-2	1	1	7
1-3	1	4	7
2-4	2	2	8
2-5	1	1	1
3-5	2	5	14
4-6	2	5	8
5-6	3	6	15

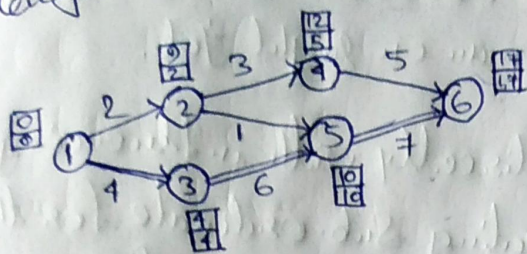
(i) Draw a project network:



(ii) Activity	$\frac{(t_o + 4t_m + t_p)}{6}$	$\frac{(t_p - t_o)^2}{6}$
	Expected time Duration	Variance
1-2	2	1
1-3	4	1
2-4	3	1
2-5	1	0
3-5	6	4
4-6	5	1
5-6	7	4



(iii) Earliest, Latest Occurance time and expected project length:



$$CP = 1 - 3 - 5 - 6$$

$$\text{Expected project length} = 1 + 4 + 4 = 9 \text{ days} \approx 8 \text{ weeks.}$$

(iv) Variance and Standard deviation:

$$\text{Variance} = 1 + 4 + 4 = 9$$

$$\text{So, Standard deviation is } = \sqrt{V} = \sqrt{9} = 3.$$

~~Planning and Organizing~~

### Function of Management

At the most fundamental level, management is a discipline that consists of a set of five general functions:

(i) Planning (ii) Organizing (iii) Staffing (iv) Leading and (v) Controlling.

These five functions are part of a body of practices and theories on how to be a successful manager.

• Planning: It is the basic function of management.

Planning is deciding in advance - what to do, when to do, how to do. It bridges the gap from where we are & where we want to be.

• Organizing: It is the process of bringing together physical, financial and human resources and developing