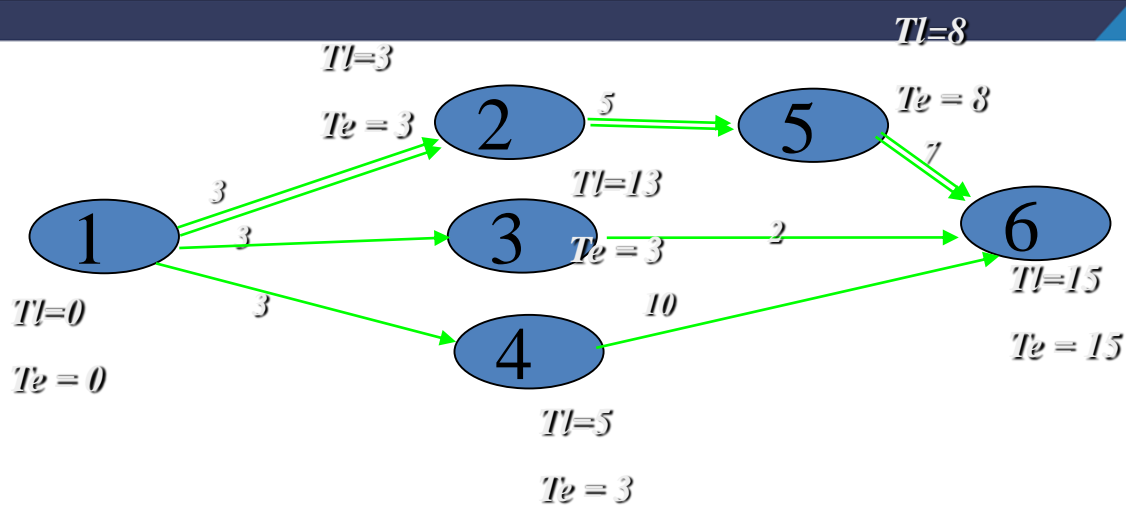# Project Management for Managers
Lec – 48
Crashing of Networks- I
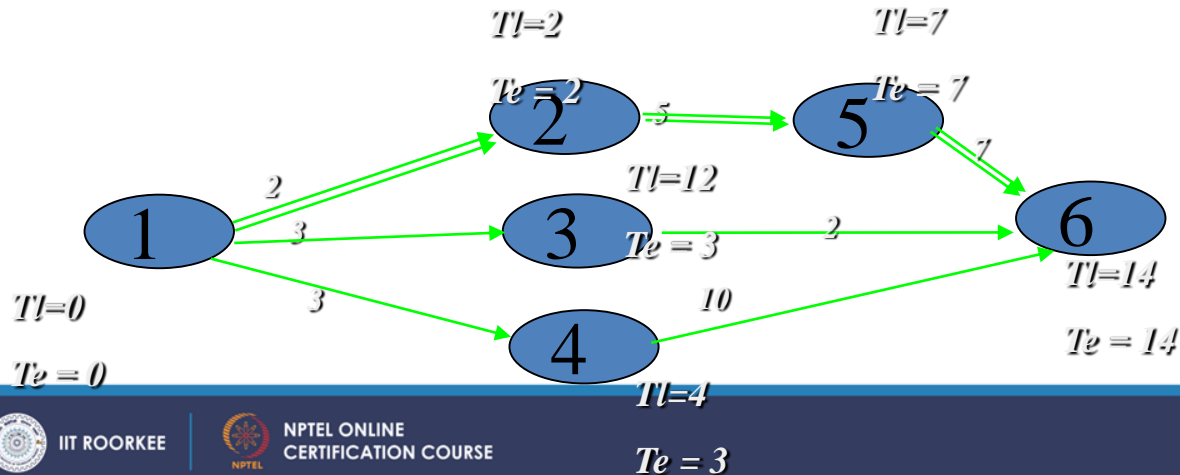
Dr. M.K. Barua
Department of Management
Indian Institute of Technology Roorkee

Critical path: 1-2-5-6
Direct Cost : 950
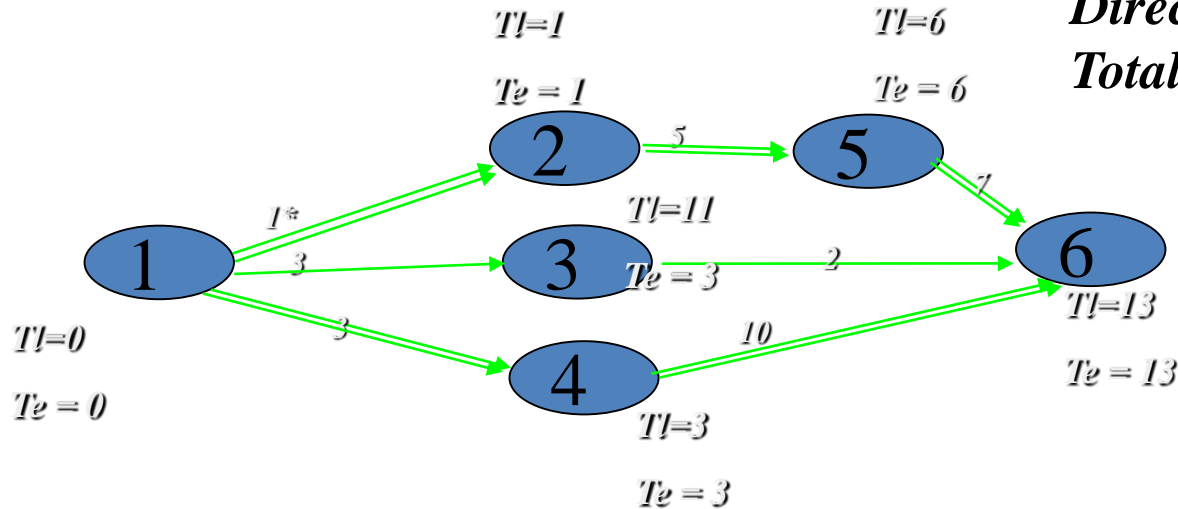Total time = 15

Again reduce activity 1-2 by one unit.

Critical path: 1-2-5-6

Direct Cost : 960

Total time = 14

Again reduce activity 1-2 by one unit.

Critical path: 1-2-5-6&1-4-6
Direct Cost : 970
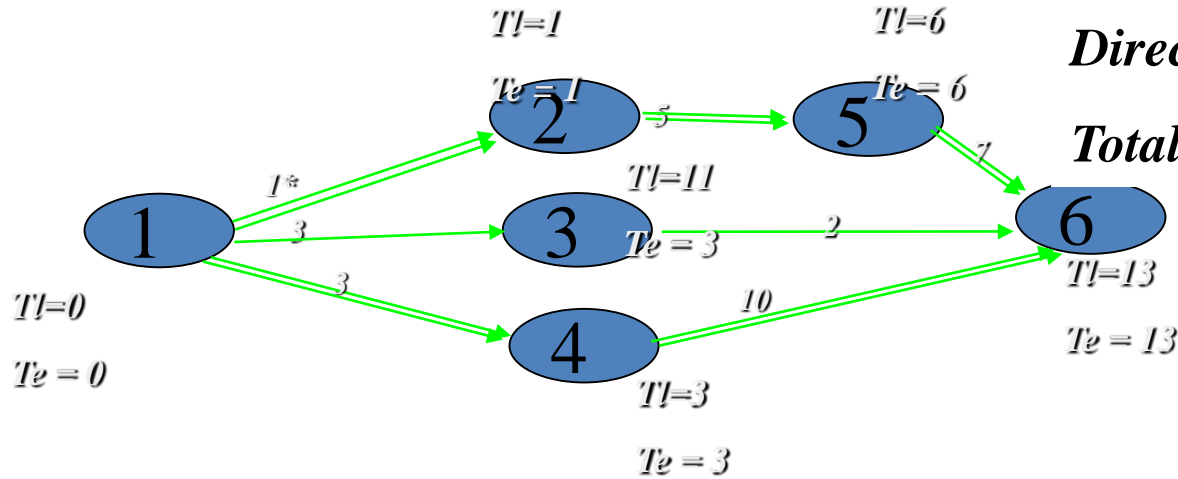**Total time = 13**

$Tl=1$
$Te = 1$

$Tl=6$
$Te = 6$

2   5   **5**

$Tl=11$

1   1*   **3** $Te = 3$ 2   **6**
     3

$Tl=0$ 3

$Tl=13$

$Te = 0$ **4**   10 $Te = 13$

$Tl=3$

$Te = 3$

Two critical paths ?????????,

Again reduce activity 1-2 by one unit.

Critical path: 1-2-5-6 &1-4-6

Direct Cost : 970

Total time = 13

Tl=1

Te = 1

Tl=6

Te = 6

2

5

5

7

1*

3

Tl=11

3

Te = 3

2

6

1

Tl=13

Te = 13

Tl=0

Te = 0

3

10

4

Tl=3

Te = 3

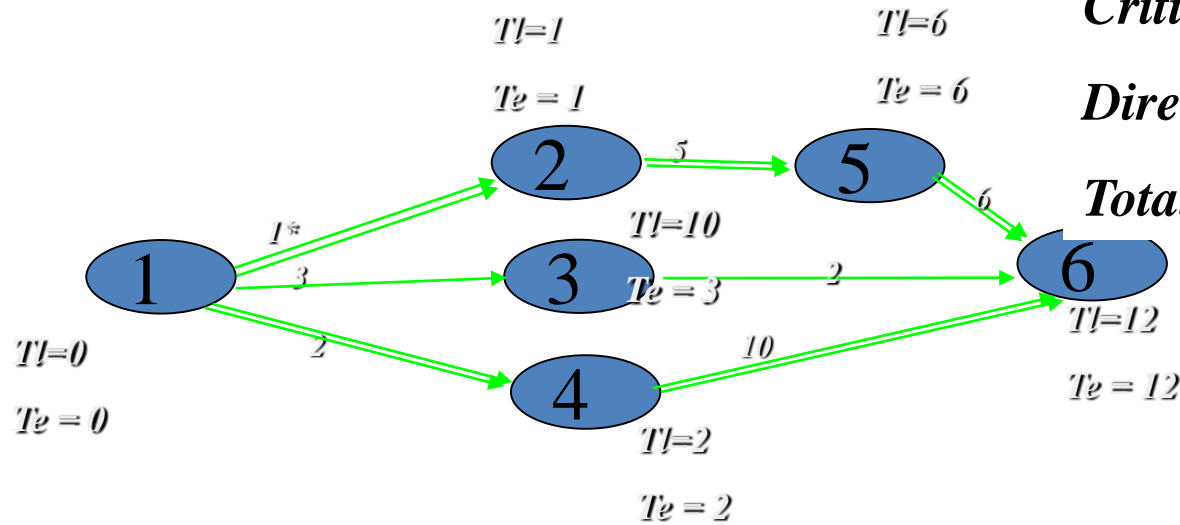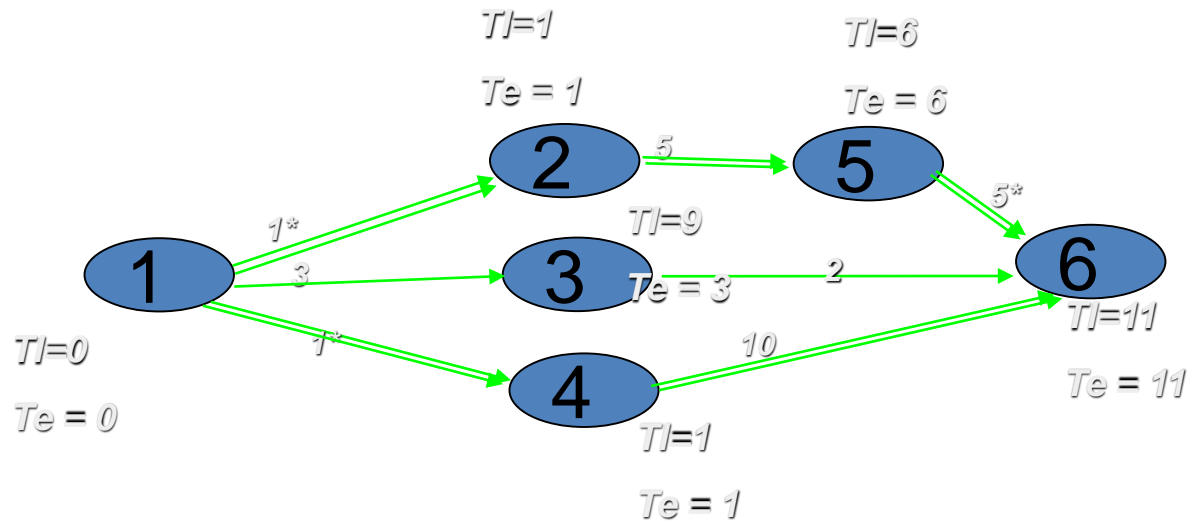**Two critical paths, reduce them simultaneously,**

Critical paths : 1   2   5   6   and   1   4   6

Cost slope   :   10   34   25   20   30

Crash Limit :   0   3   2   2   1

Reduce activities 5-6 and 1-4 by 1 day.

Critical path: 1-2-5-6 & 1-4-6

Direct Cost : 970 + 45 = 1015

Total time = 12

Two critical paths, reduce them simultaneously,

Critical path :	1	2	5	6	and	1	4	6
Cost slope :		10	34	25			20	30
Crash Limit :		0	3	1			1	1

Reduce activities 5-6 and 1-4 by 1 day again.

Critical path: 1-2-5-6 & 1-4-6

Direct Cost : 1015+45=1060

Total time = 11

Two critical paths, reduce them simultaneously,

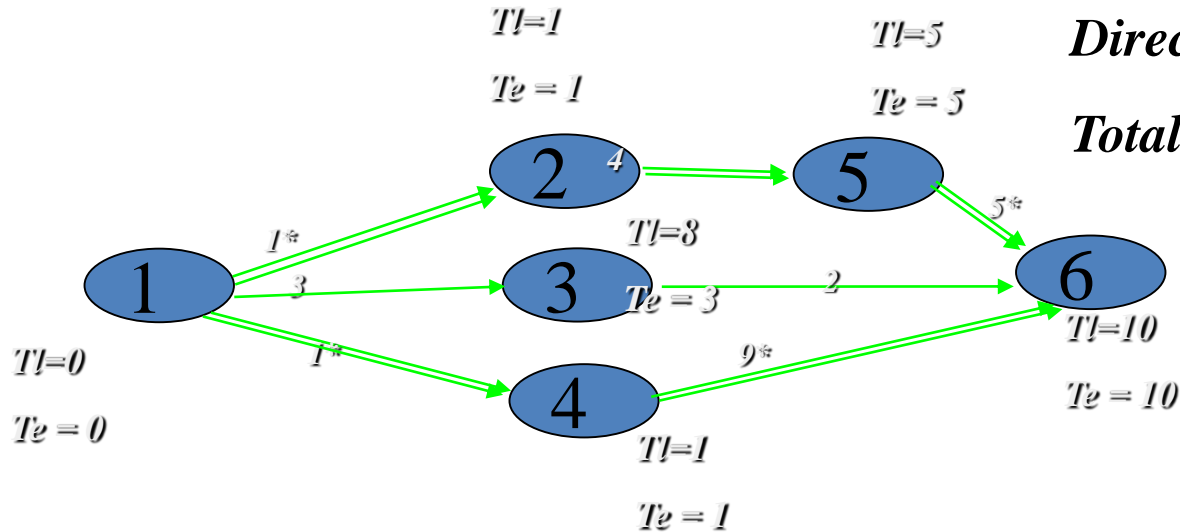| Critical path : 1	2	5	6 and	1	4	6
Cost slope :	10	34	25		20	30
Crash Limit :	0	3	0		0	1

Reduce activities 2-5 and 4-6 by 1 day.

Critical path: 1-2-5-6&1-4-6

Direct Cost : 1060+64=1124

Total time = 10

Critical paths can not be reduced further.

Optimum schedule:

Days	DC	IDC	TC
16	*940*	*800*	*1740*
15	*950*	*750*	*1700*
14	*960*	*700*	*1660*
13	*970*	*650*	*1620*
12	*1015*	*600*	*1615*
11	**1060**	**550**	**1610**
10	**1124**	**500**	**1624**