Department of Civil Engineering, IIT Delhi

CEL772 CONSTRUCTION PROJECT MANAGEMENT

B Slot   Minor-1   I Sem 2016-2017   Max Mark 50

1   Draw a logic diagram and calculate the project duration and show the critical path

Activity	IPA	Duration	Construction Constraints		
			Type	Extent	Preceding
A	B	10	SS	5	B
B	–	10	–	–	–
C	B	12	SS	0	B
D	A	5	FS	–5	A
			FF	2	A
E	A, B, C	10	–	–	–
F	C	50	–	–	–
G	D	40	FS	5	E
H	E	15	FS	–5	E
			FF	0	I
I	E	20	–	–	–

2.   Draw the AON diagram for the following activity list and show the network analysis

Activity	ISA	Duration
A	D, J	22
B	C, F	10
C	D, J	13
D	-	8
E	C, F, G	15
F	H, I, K	17
G	H, I, K	15
H	D, J	6
I	J	11
J	-	12
K	-	20

3.   The sequential activities for the construction of one house are shown in the table. The project consists of 10 similar houses. Calculate the number of crews needed for each activity if the deadline for completing the project is 100 days and draw the LOB schedule.

Activity	Duration (days)	Buffer (days)
Foundations	5	
Walls	8	2
Roof	6	3
Services 1	3	2
Finishes	5	1
Services 2	2	2
External works	4	1