

LAB ACTIVITY

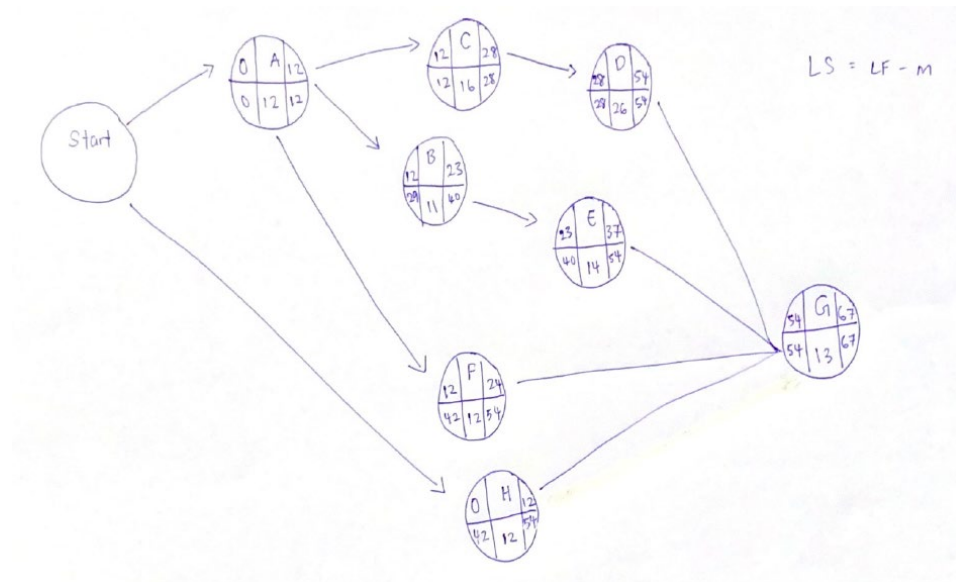
(Note: This activity could be an alternative assessment for backup Quiz)

Lab Activity 1: (10 marks)

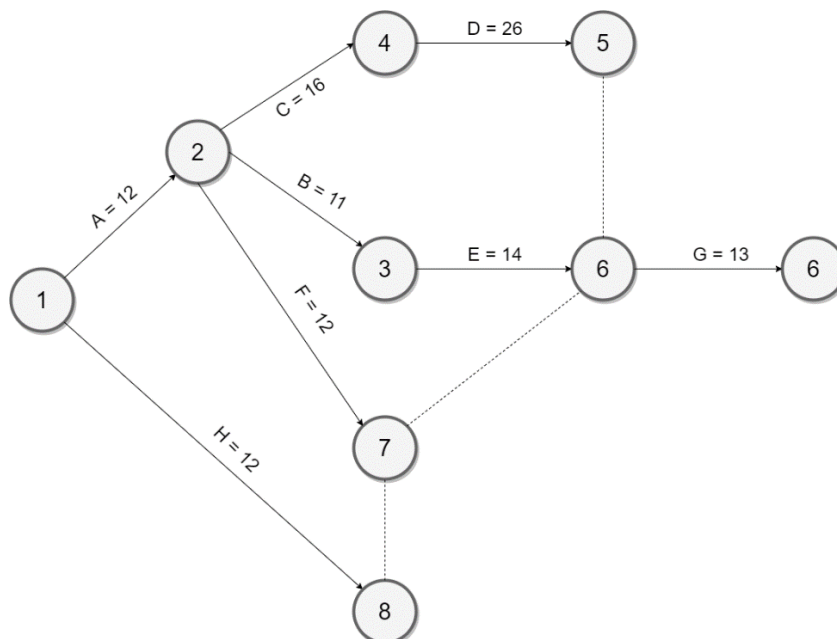
For the following table of information:

Activity	Duration	Predecessor
A	12 days	-
B	11 days	A
C	16 days	A
D	26 days	C
E	14 days	B
F	12 days	A
G	13 days	D, E, F, H
H	12 days	-

- a) Draw the network diagram.
AON



AOA



b) Find the critical path.

A-C-D-G

$12 + 16 + 26 + 13$

Completion Time = **67 days**

c) Find out all respective dates for ES, EF, LS, LF, SLACK/Float

Activity	Earliest Start (ES)	Earliest Finish (EF)	Latest Start (LS)	Latest Finish (LF)	Slack	On Critical Path
A	0	12	0	12	0	Yes
B	12	23	29	40	17	No
C	12	28	12	28	0	Yes
D	28	54	28	54	0	Yes
E	23	37	40	54	17	No
F	12	24	42	54	30	No
G	54	67	54	67	0	Yes
H	0	12	42	54	42	No

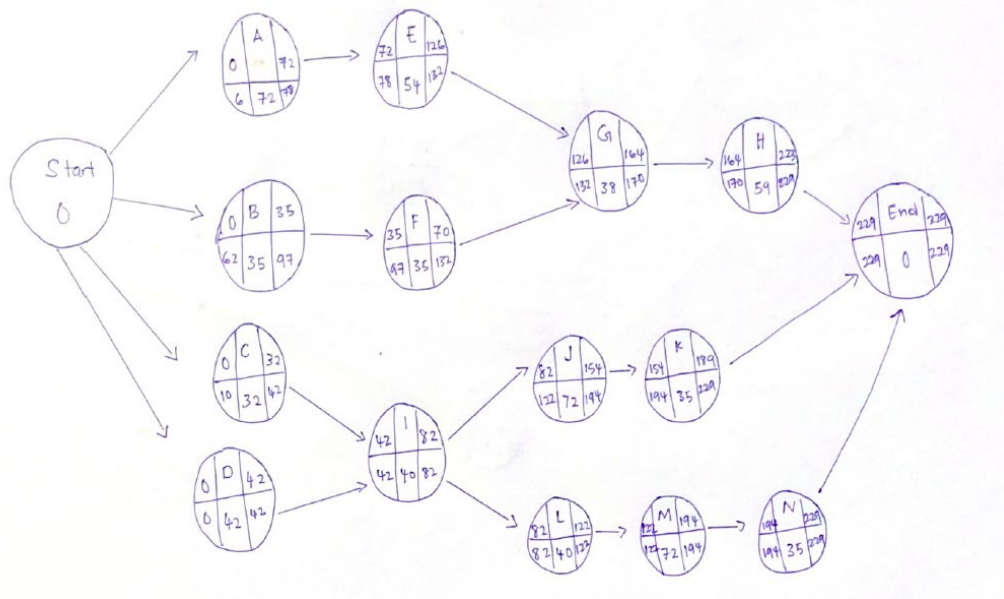
Lab Activity 2: (15 marks)

For the following table of information:

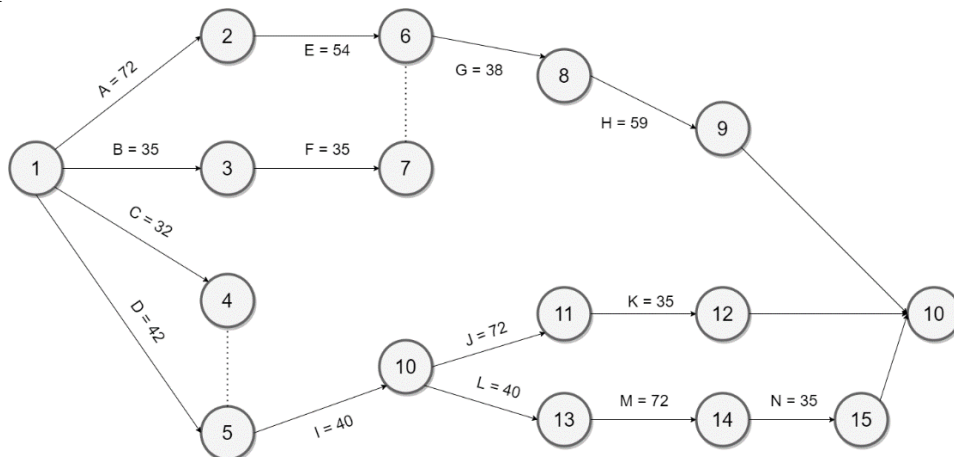
Activity	Duration	Predecessor
Start (St)	0 days	-
A	72 days	St
B	35 days	St
C	32 days	St
D	42 days	St
E	54 days	A
F	35 days	B
G	38 days	E, F
H	59 days	G
I	40 days	C, D
J	72 days	I
K	35 days	J
L	40 days	I
M	72 days	L
N	35 days	M
End	0 days	H, K, N

a) Draw the network diagram.

AON



AOA



- b) Find the critical path
 $42 + 40 + 40 + 72 + 35$
 D-I-L-M-N
 Completion time = **229 days**

- c) Apply the PERT, given that:
 Example Node/Activity A;
 Optimistic time(O)= minus 10 day
 Most likely time(M) => **A = 72 days**
 Pessimistic time(P) = plus 40 days

TASK	PREDECESSOR	O	M	P	TE
Start (St)	-	-10	0	40	5
A	St	62	72	112	77
B	St	25	35	75	40
C	St	22	32	72	37
D	St	32	42	82	47
E	A	44	54	94	59
F	B	25	35	75	40
G	E, F	28	38	78	43
H	G	49	59	99	64
I	C, D	30	40	80	45
J	I	62	72	112	77
K	J	25	35	75	40
L	I	30	40	80	45
M	L	62	72	112	77
N	M	25	35	75	40
End	H, K, N	-10	0	40	5

- d) Find out all respective dates for ES, EF, LS, LF, SLACK/Float

Activity	Earliest Start (ES)	Earliest Finish (EF)	Latest Start (LS)	Latest Finish (LF)	Slack	On Critical Path
Start (St)	0	0	0	0	0	Yes
A	0	72	6	78	6	No
B	0	35	62	97	62	No
C	0	32	10	42	10	No
D	0	42	0	42	0	Yes
E	72	126	78	132	6	No
F	35	70	97	132	62	No
G	126	164	132	170	6	No
H	164	223	170	229	6	No
I	42	82	42	82	0	Yes
J	82	154	122	194	40	No
K	154	189	194	229	40	No
L	82	122	82	122	0	Yes
M	122	194	122	194	0	Yes
N	194	229	194	229	0	Yes
End	229	229	229	229	0	Yes