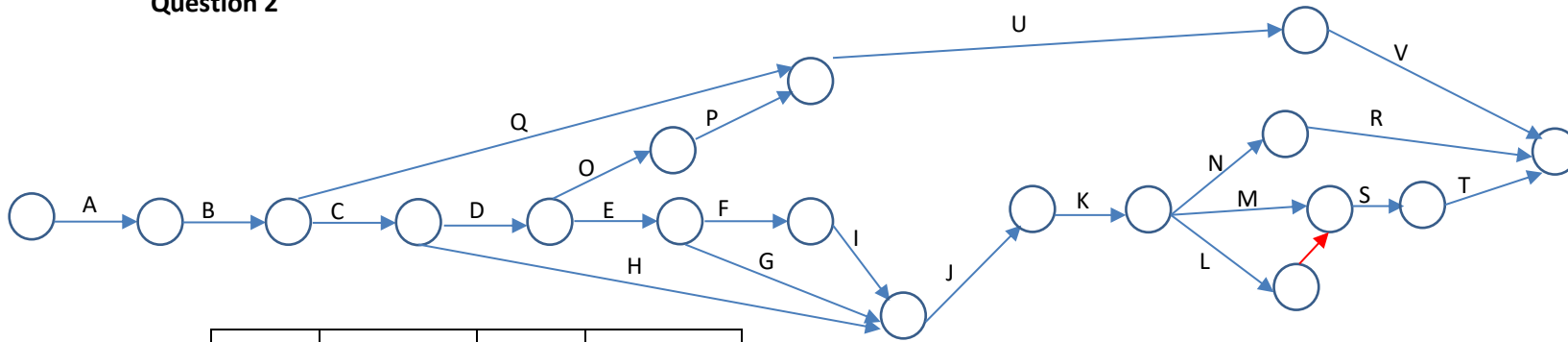


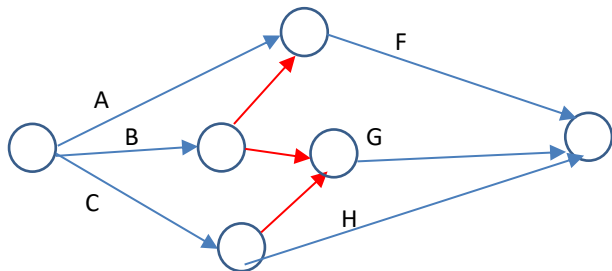
Question 2



Activity	Immediate predecessor	Activity	Immediate predecessor
A	—	L	K
B	A	M	K
C	B	N	K
D	C	O	D
E	D	P	O
F	E	Q	B
G	E	R	N
H	C	S	L,M
I	C,F	T	S
J	G,H,I	U	P,Q
K	J	V	U

Question 3(ii)

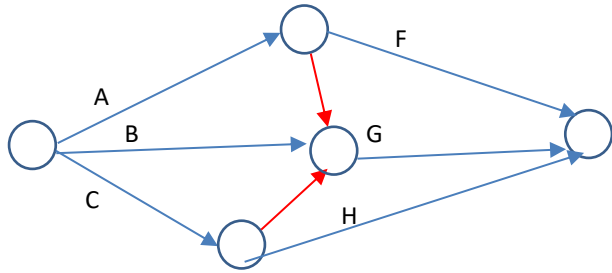
A and B control F; B controls G while C controls G and H.



Question 3 (iii)

A controls F and G; B controls G while C controls G and H.

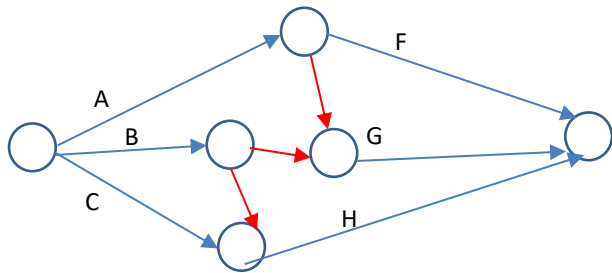
A	-	F	A
B	-	G	A, B, C
C	-	H	C



Question 3 (iv)

F and G are controlled by A; G and H are controlled by B with H controlled by ~~and~~ C.

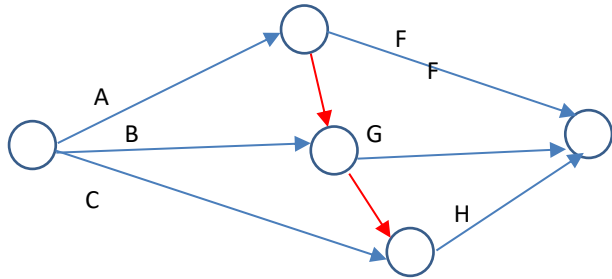
A	-	F	A
B	-	G	A, B
C	-	H	B, C



Question 3 (v)

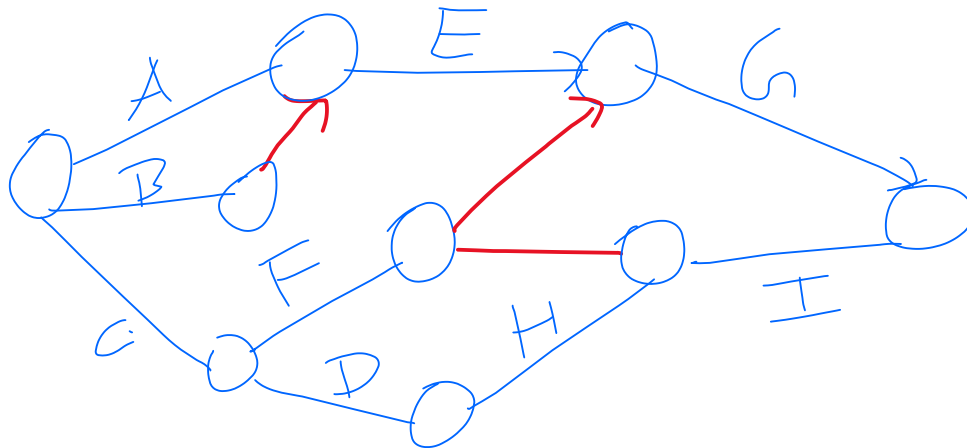
A controls F, G and H, B controls G and H with H controlled by C.

A	-	F	A
B	-	G	A, B
C	-	H	A, B, C



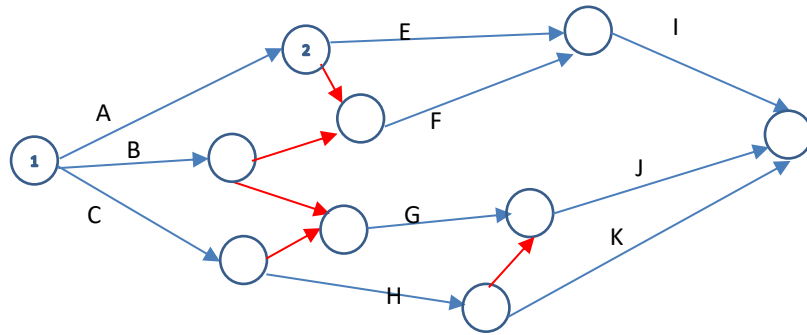
Question 4

Activity:	A	B	C	D	E	F	G	H	I
Predecessor:	-	-	-	C	A, B	C	E, F	D	F, H



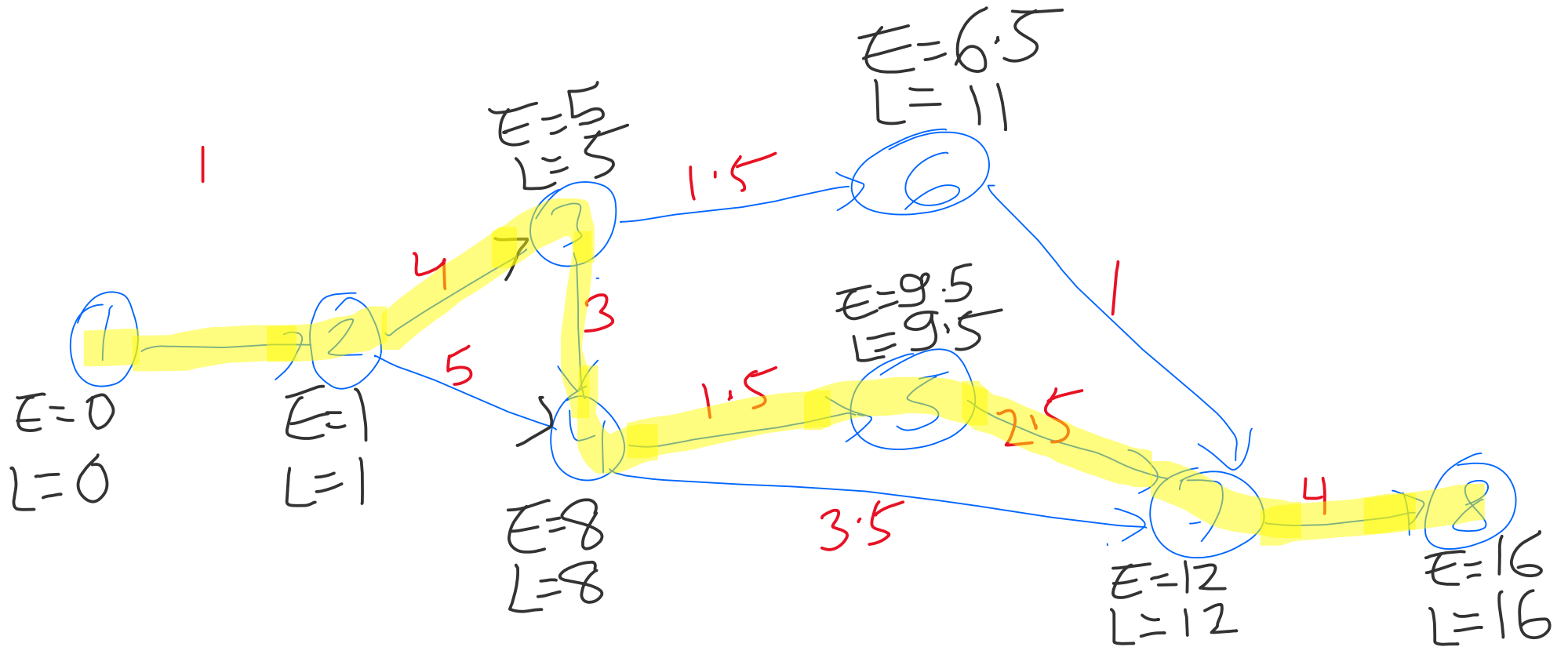
Question 5

Activity	predecessor	Activity	predecessor
A	—	G	B, C
B	—	H	C
C	—	I	E, F
E	A	J	G, H
F	A, B	K	H



Question 6

Activity	Duration (months)	Activity	Duration (months)
1-2	1	3-6	1.5
2-3	4	4-7	3.5
2-4	5	5-7	2.5
3-4	3	6-7	1
4-5	1.5	7-8	4



Activity	Duration	Early Start	Late Start	Early Finish	Late Finish	Float LS-ES	HES	free Float	TES	I float
1-2	1	0	0	1	1	0	0	0	0	0
2-3	4	1	1	5	5	0	0	0	0	0
2-4	5	1	3	6	8	2	0	2	0	2
3-4	3	5	5	8	8	0	0	0	0	0
4-5	1.5	8	8	9.5	9.5	0	0	0	0	0
3-6	1.5	5	9.5	6.5	11	4.5	4.5	0	0	0
4-7	3.5	8	8.5	11.5	12	0.5	0	0.5	0	0.5
5-7	2.5	9.5	9.5	12	12	0	0	0	0	0
6-7	1	6.5	11	7.5	12	4.5	0	4.5	4.5	0
7-8	4	12	12	16	16	0	0	0	0	0

Path

1-2-3-6-7-8

1-2-3-4-5-7-8

1-2-3-4-7-8

Duration

1+4+1.5+1+4 = 11.5

1+4+3+1.5+2.5+4 =16

1+4+3+3.5+4 = 15.5

1-2-4-5-7-8

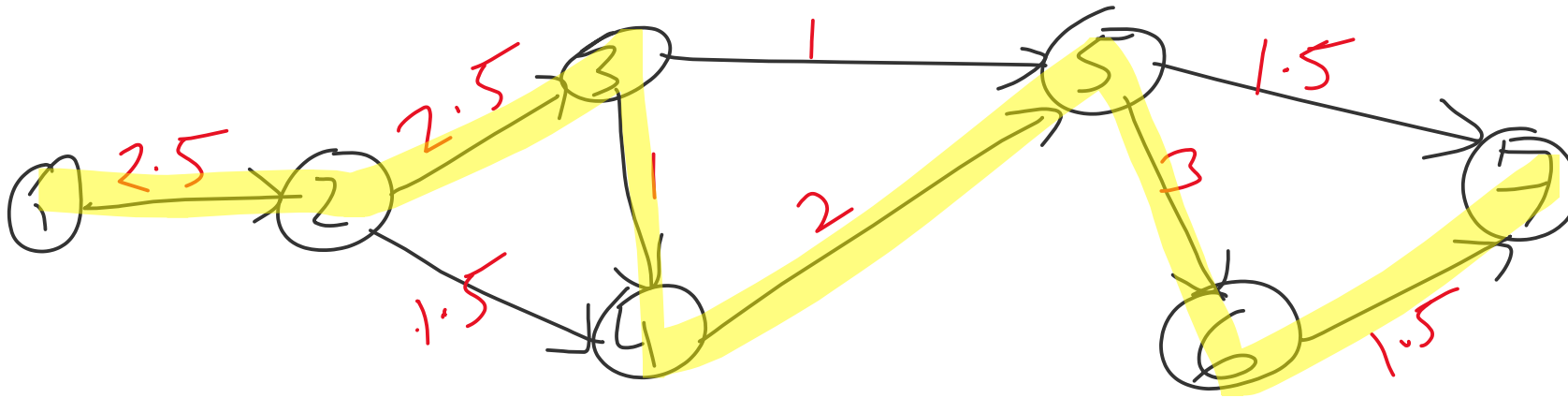
$$1+5+1.5+2.5+4 = 14$$

1-2-4-7-8

$$1+5+3.5+4 = 13.5$$

Question 7

Activity	Duration (months)	Activity	Duration (months)
1-2	2.5	4-5	2.0
2-3	2.5	5-6	3.0
2-4	1.5	6-7	1.5
3-4	1.0	5-7	1.5
3-5	1.0		



Activity	Time	Early Start	Late Start	Early Finish	Late Finish	Float LS-ES	HES	free Float	TES	I float
1-2	2.5	0	0	2.5	2.5	0	0	0	0	0
2-3	2.5	2.5	2.5	5	5	0	0	0	0	0
2-4	1.5	2.5	4.5	4	6	2	0	2	0	2
3-4	1	5	5	6	6	0	0	0	0	0
3-5	1	5	7	6	8	2	0	2	0	2
4-5	2	6	6	8	8	0	0	0	0	0
5-6	3	8	8	11	11	0	0	0	0	0
5-7	1.5	8	11	9.5	12.5	3	0	3	0	3
6-7	1.5	11	11	12.5	12.5	0	0	0	0	0

Path

Duration

1-2-3-5-7

$$2.5+2.5+1+1.5 = 7.5$$

1-2-3-5-6-7

$$2.5+2.5+1+3+1.5 = 10.5$$

1-2-3-4-5-7

$$2.5+2.5+1+2+1.5 = 9.5$$

1-2-3-4-5-6-7

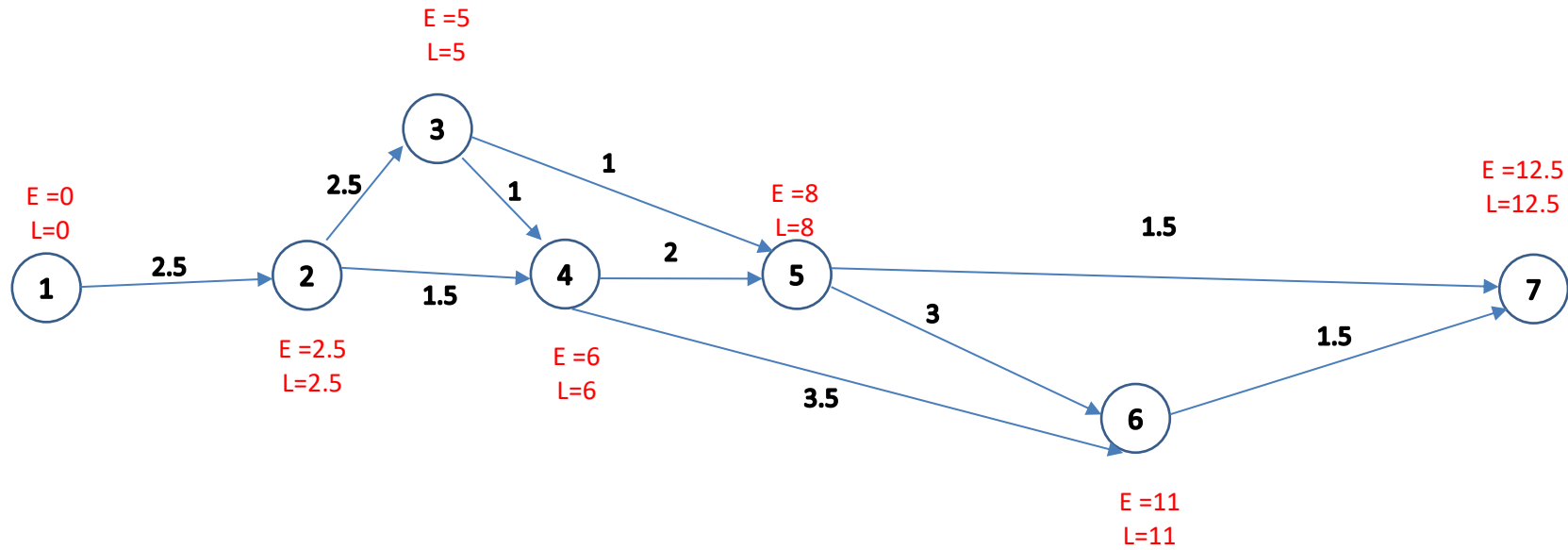
$$\mathbf{2.5+2.5+1+2+3+1.5 = 12.5}$$

1-2-4-5-7

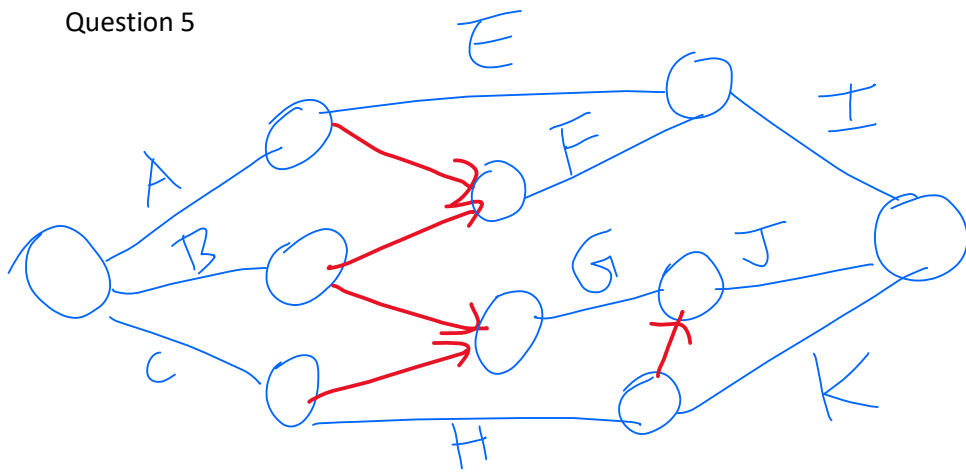
1-2-4-5-6-7

$$2.5+1.5+2+1.5 = 7.5$$

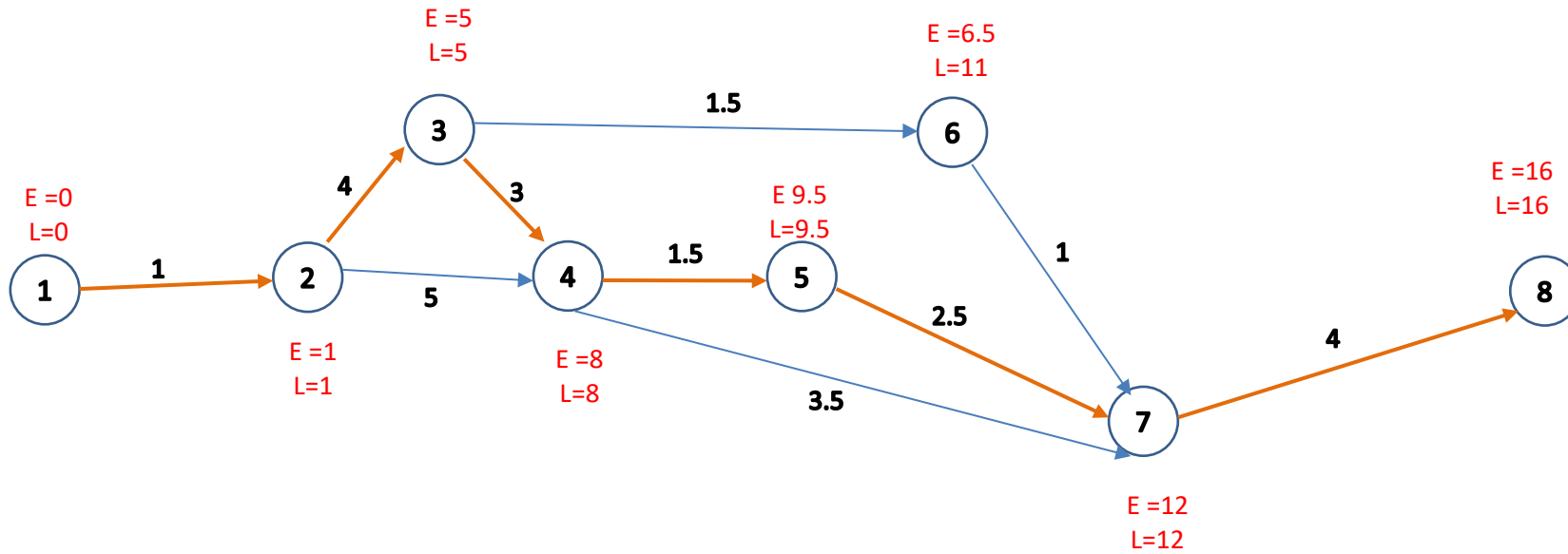
$$2.5+1.5+2+3+1.5 = 10.5$$



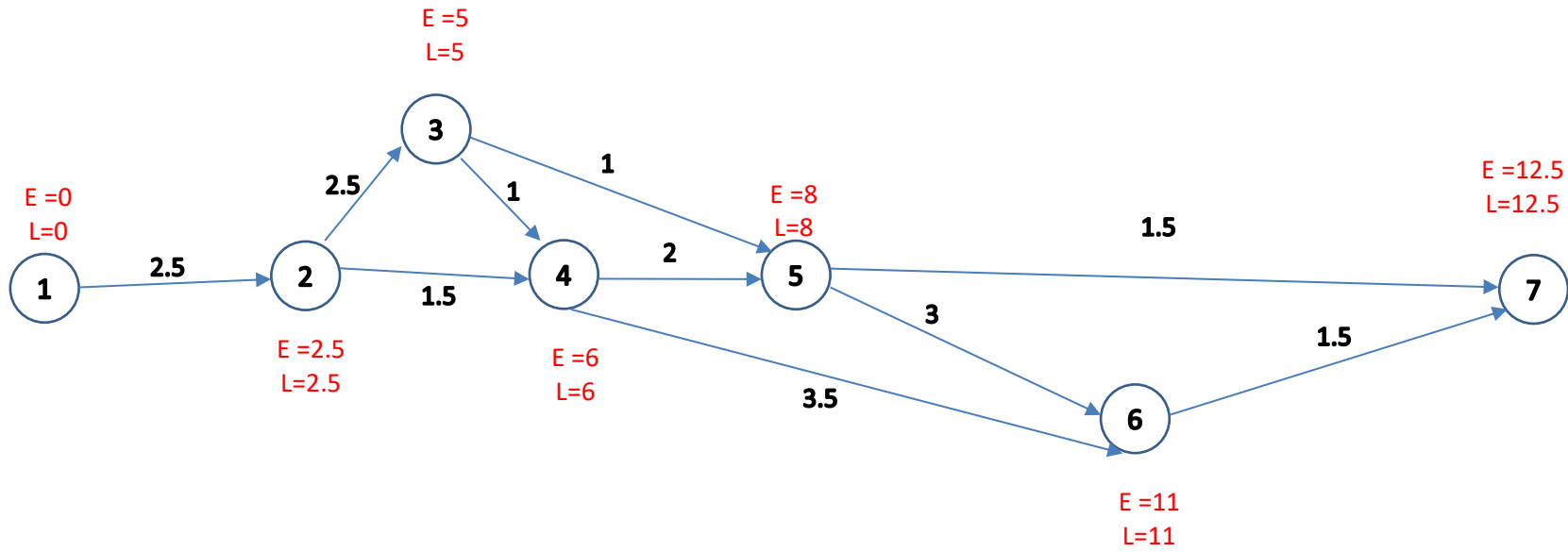
Question 5



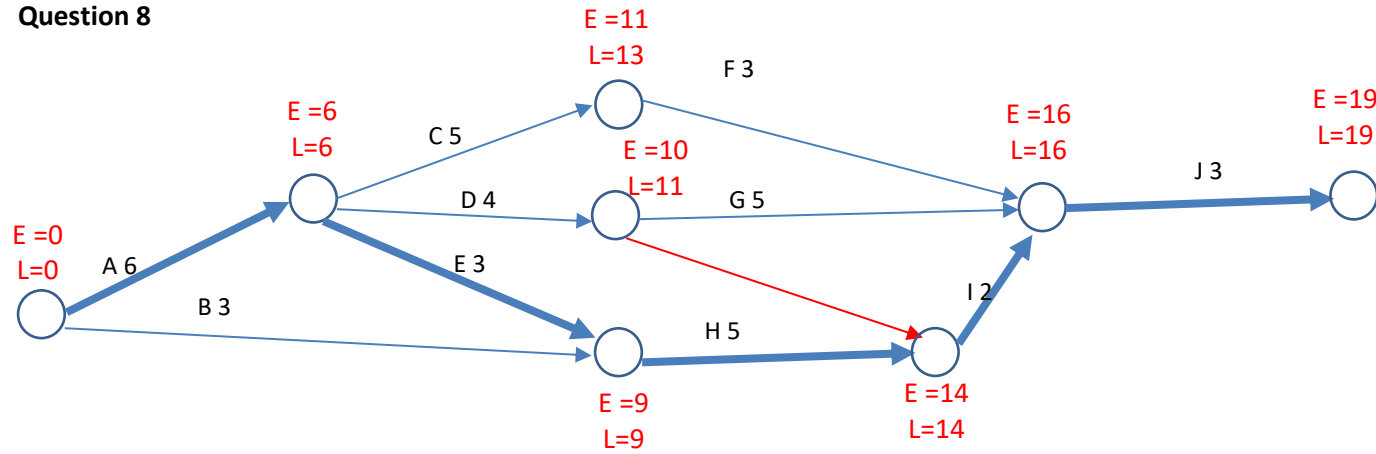
Question 6



Question 7

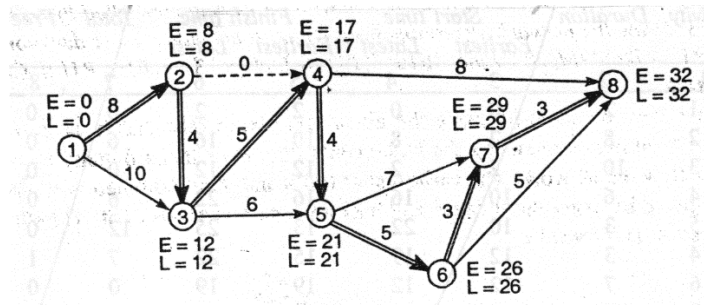


Question 8

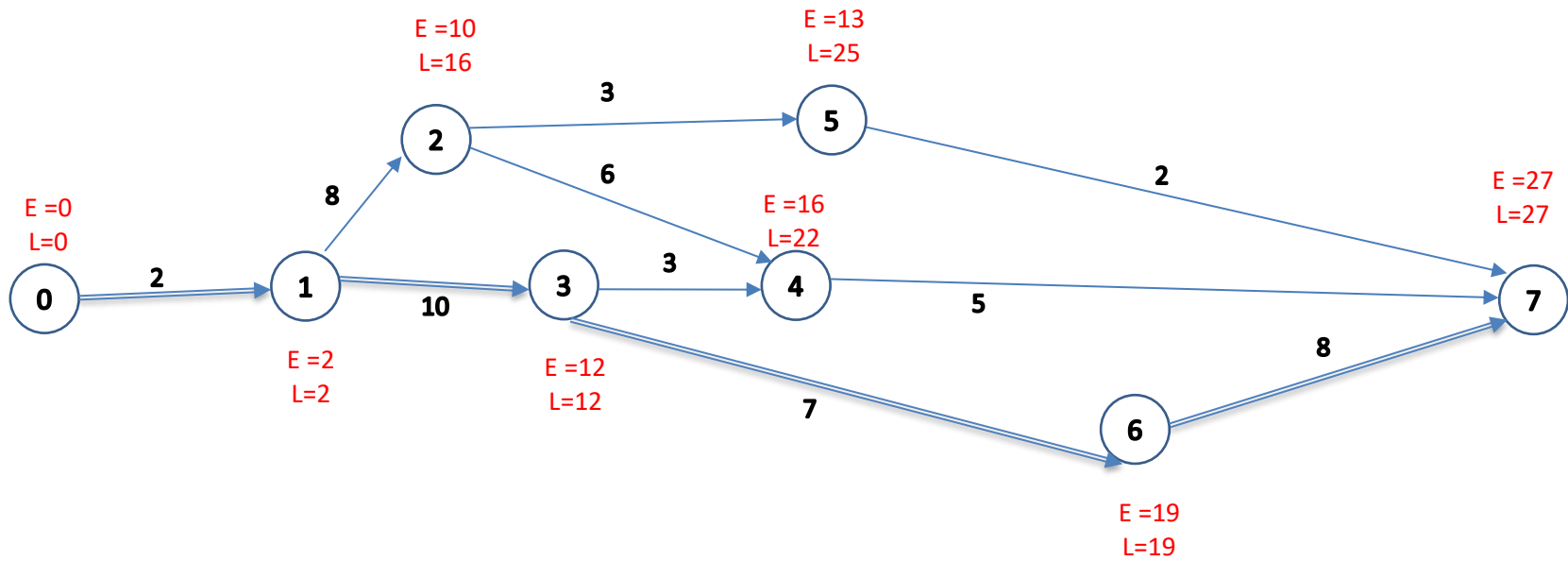


Activity	Time	Early Start	Late Start	Early Finish	Late Finish	Float LS-ES	HES	free Float	TES	I float
A	6	0		6	6	0	0	0	0	0
B	3	0		3	9	6	0	6	0	6
C	5	6		11	13	2	2	0	0	0
D	4	6		10	11	1	1	0	0	0
E	3	6		9	9	0	0	0	0	0
F	3	11		14	16	2	0	2	2	0
G	5	10		15	16	1	0	1	1	0
DUM	0	10		10	14	4	0	4	1	3
H	5	9		14	14	0	0	0	0	0
I	2	14		16	16	0	0	0	0	0
J	3	16		19	19	0	0	0	0	0

Question 10



Activity	Time	Early Start	Late Start	Early Finish	Late Finish	Float LS-ES	HES	free Float	TES	I float
1-2	8	0		8	8	0	0	0	0	0
1-3	10	0		10	12	2	0	2	0	2
2-3	4	8		12	12	0	0	0	0	0
2-4 (d)	0	8		8	17	9	0	9	0	9
3-4	5	12		17	17	0	0	0	0	0
3-5	6	12		18	21	3	0	3	0	3
4-5	4	17		21	21	0	0	0	0	0
4-8	8	17		25	32	7	0	7	0	7
5-6	5	21		26	26	0	0	0	0	0
5-7	7	21		28	29	1	0	1	0	1
6-7	3	26		29	29	0	0	0	0	0
6-8	5	26		31	32	1	0	1	0	1
7-8	3	29		32	32	0	0	0	0	0



Activity	Time	Early Start	Late Start	Early Finish	Late Finish	Float LS-ES	HES	free Float	TES	I float
0-1	2	0	0	0	2	0	0	0	0	0
1-2	8	2	8	10	16	6	6	0	0	0
1-3	10	2	2	12	12	0	0	0	0	0
2-4	6	10	16	16	22	6	6	0	6	0
2-5	3	10	22	13	25	12	12	0	6	0
3-4	3	12	19	15	22	7	6	1	0	1
3-6	7	12	12	19	19	0	0	0	0	0
4-7	5	16	22	21	27	6	0	6	6	0
5-7	2	13	25	15	27	12	0	12	12	0
6-7	8	19	19	27	27	0	0	0	0	0