CA2

Assignment

Solve all questions below:

Q.1 Draw the network of the following projects   **(5×2=10) marks**

a.

Activity	Predecessor(s)
A	—
B	—
C	A
D	A
E	C
F	D
G	B
H	E, F
I	G

b.

Activity	Predecessor(s)
A	—
B	—
C	A
D	B
E	B
F	C, D
G	E
H	E
I	G
J	H
K	I, J
L	F

c.

Activity	Predecessor(s)
A	—
B	—
C	—
D	A
E	C
F	B, C
G	F
H	D, F
I	E, F, K
J	G, H
K	—
L	K

d.

Activity	Duration (Days)	Predecessor(s)
A	5	—
B	6	A
C	1	A
D	4	B
E	1	B
F	2	C
G	3	C
H	1	B
I	5	D, E
J	1	D, E
K	4	F, G, H, I
L	2	E
M	2	G
N	2	J, K, L, M

e.

Activity	A	B	C	D	E	F	G	H	I	J	K	L
Predecessor(s)	—	—	—	B,C	A	C	E	E	D, F, H	E	I, J	G

Q.2. For the below set of activities, as given in Table 1 and their successor relationships, construct a network, identify the critical path and perform a complete float analysis (Total float and free float). The duration of the activity is in days. **7 marks**

Table 1: Data showing successor relationships

Activity	A	B	C	D	E	F	G	H	I	J
Days	8	7	6	8	4	8	5	6	6	10
Successor	C	D, E, F	G	G	H	I	J	J	J	—

Q.3. A construction company is preparing a PERT network for laying the foundation of a new art gallery. Table 2 gives the following set of activities, their predecessor requirements and three estimates of completion times in weeks. Table 2 Data on activities and activity times (weeks) **8 marks**

(i) Draw the PERT network.

(ii) Compute the float for each activity and determine the critical path.

Table 2: Data on activities and activity times (weeks)

Activity	Predecessor(s)	T_o	T_m	T_p
A	—	2	3	4
B	—	8	8	8
C	A	7	9	11
D	B	6	6	6
E	C	9	10	11
F	C	10	14	18
G	C, D	11	11	11
H	F, G	6	10	14
I	E	4	5	6
J	I	3	4	5
K	H	1	1	1