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ID :- 7731

Section :- A

Semester :- 8th

Exam :- Mid Term

Subject :- Construction Management

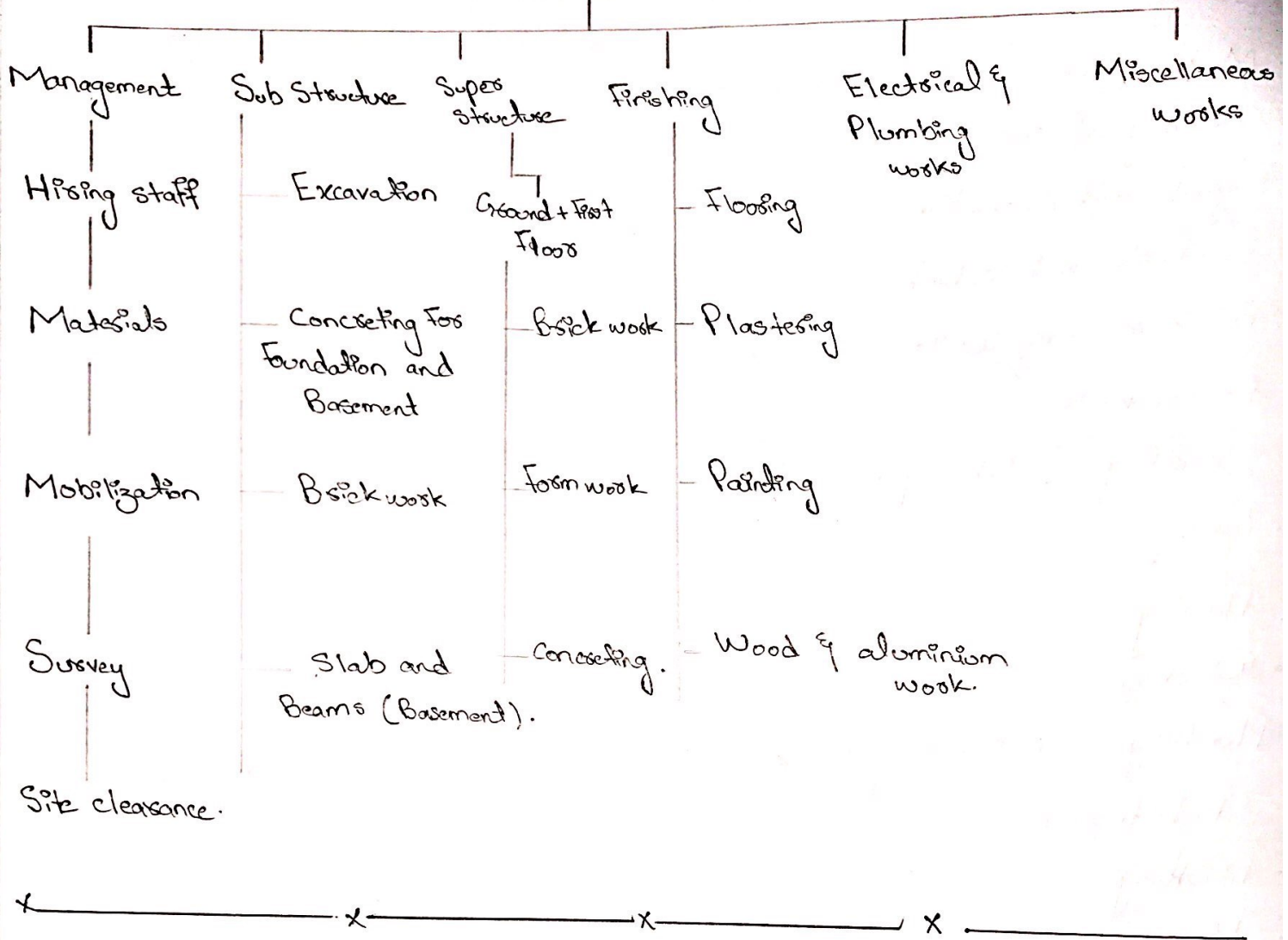
Instructor :- Engrs. Muhammad Zeeshan Akhad.

"Activity list of a two two stories Building"

- Survey
- Mobilization
- Clearing of site
- Layout and Excavation.
- Foundation and columns
- Brick masonry Walls.
- Formwork.
- Concreting (slabs & Beams).
- Curing.
- Flooring.
- Wood work.
- Plumbing and sanitary work
- Electrification.
- Finishing
- Miscellaneous.

Work Breakdown structure of Building:-

Construction of Building



Question ②
= "Time line of the Project"

Construction of "2" Kanal House

Task Mode	Task Name	Duration Days	Start	Finish	Predecessor:
1-	Initial Survey	2	20-4-2020	21-4-20	
2-	Mobilization	3	22-4-20	25-4-20	
3-	Clearance and grubbing	2	25-4-20	27-4-20	
4-	Detailed Survey	2	27-4-20	29-4-20	
5-	Layout	2	29-4-20	1-5-20	
6-	Excavation	3	1-5-20	4-5-20	
7-	levelling and dressing	1	4-5-20	5-5-20	
8-	Anti termite	1	5-5-20	6-5-20	
9-	"Foundation and Basement"		-5		
10-	Lean Concrete	1	6-5-20	7-5-20	
11-	Steel Rebar for column foundation	2	7-5-20	9-5-20	
12-	Formwork	3	9-5-20	12-5-20	
13-	Concrete 1:2:4 Foundation column.	3	10-5-20	13-5-20	
14-	Steel Rebar for column.	7	12-5-20	19-5-20	
15-	Column Formwork basement.	7	13-5-20	20-5-20	

Task Mode	Task Name	Duration	Start	Finish	Predecessor
16-	Column concreting basement	7	14-5-20	21-5-20	
17-	Formwork for beams and slabs	10	19-5-20	29-5-20	
18-	Steel cutting and Placing	5	29-5-20	3-6-20	
19-	Electrical Pipes distribution.	2	3-6-20	5-6-20	
20-	Conesete 1:2:4 slab and Beam.	1	5-6-20	6-6-20	
21-	Form Removal.	4	29-6-20	3-7-20	
22-	Brick masonry	30	4-7-20	3-8-20	
23-	Electrical and Plumbing Pipe distribution	10	3-8-20	13-8-20	
24-	Plastering	20	3-8-20	23-8-20	
25-	Curing	110	13-6-20	31-8-20	
26-	ceiling	10	31-8-20	10-9-20	
27-	Painting	20	10-9-20	15-9-20	
28-	Sanitation work	5	20-9-20	27-9-20	
29-	Floor Concreting	7	27-9-20	12-10-20	
30-	tiles and marbles	15	27-9-20	27-10-20	

	Task Name.	Duration	start	Finish
31-	Wood Works	30	12-10-20	15-10-20
32-	Electrical wire distribution.	5	27-10-20	2-9-20
33-	Sanitary Fixtures.	3	31-9-20	15-10-20
34-	Ground Floor			
35-	layout	1	6-6-20	7-6-20
36-	Steel curing and Placing for column.	2	7-6-20	9-6-20
37-	Formwork.	5	9-6-20	14-6-20
38-	Concreting for column.	6	10-6-20	16-6-20
39-	Form work for beams and slab	10	16-6-20	26-6-20
40-	Steel cutting & Placing	7	26-6-20	3-7-20
41-	Electrical Pipes distribution	2	3-7-20	5-7-20
42-	Concrete 1:2:4 for slab & Beams	1	5-7-20	6-7-20
43-	Form removal	2	3-8-20	5-8-20
44-	Brick masonry	15	5-8-20	20-8-20
45-	Electrical and Plumbing Pipes distribution	5	20-8-20	25-8-20
46-	Plastering	15	25-8-20	9-9-20

	Task Name	Duration	Start	Finish	
47-	Curing	90	10-6-20	8-9-20	
48-	Seiling	5	8-9-20	13-9-20	
49-	Painting	15	13-9-20	28-9-20	
50-	Sanitation work	3	8-9-20	11-9-20	
51-	Floos concreting	3	11-9-20	14-9-20	
52-	tiles and marbles	15	14-9-20	29-9-20	
53-	Wood works	20	29-9-20	19-10-20	
54-	Electrical wire distribution	5	28-9-20	3-10-20	
55-	Sanitary fixtures-	5	29-9-20	4-10-20	
56-	First Floor				
57-	layout	1	6-7-20	7-7-20	
58-	steel cutting and Placing for column	5	7-7-20	12-7-20	
59-	Formwork	7	8-7-20	15-7-20	
60-	Concreting for column	7	8-7-20	15-7-20	
61-	Formwork for beams & slabs	10	15-7-20	25-7-20	
62-	steel cutting & Placing	7	25-7-20	1-8-20	

	Task Name.	Duration	Start	Finish
63-	Electrical Pipe distribution	2	1-8-20	3-8-20
64-	Concrete 1:2:4 slab & Beams	1	3-8-20	4-8-20
65-	Form removal	2	1-9-20	3-9-20
66-	Brick masonry	10	3-9-20	13-9-20
67-	Electrical and Plumbing Pipes distribution	5	13-9-20	18-9-20
68-	Plastering	15	18-9-20	3-10-20
69-	Curing	90	8-7-20	6-10-20
70-	Ceiling	7	3-10-20	10-10-20
71-	Painting	15	10-10-20	25-10-20
72-	Sanitary work	5	3-10-20	8-10-20
73-	Floors concreting	5	8-10-20	13-10-20
74-	Tiles and marbles	20	13-10-20	2-11-20
75-	Wood works	20	2-11-20	22-11-20
76-	Electrical wire distribution.	5	25-10-20	30-10-20
77-	Sanitary fixtures.	5	22-11-20	27-11-20

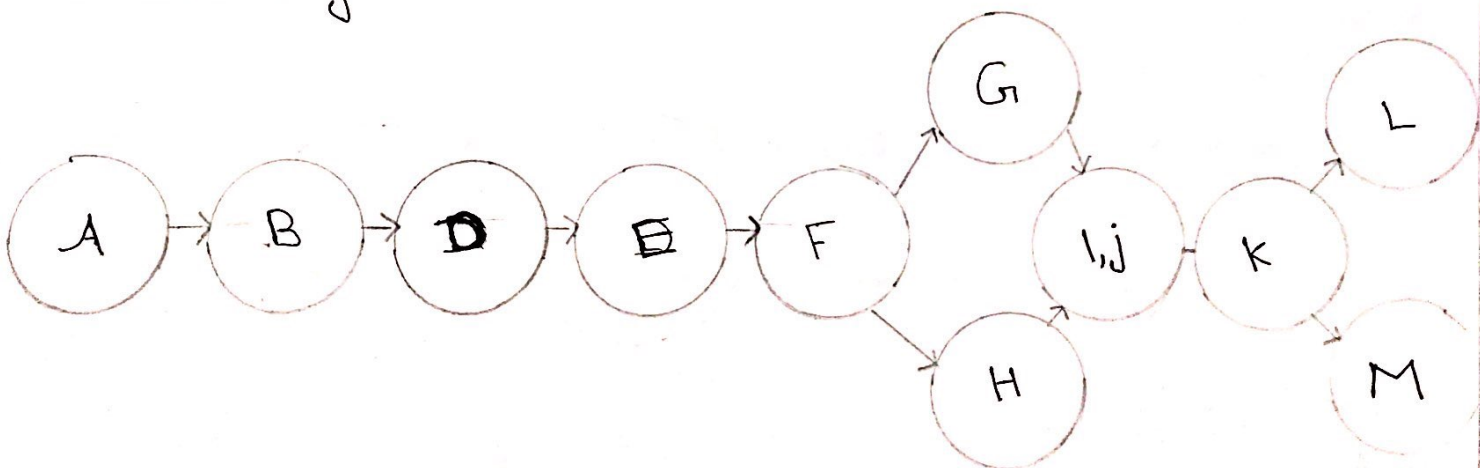
	Task Name	Duration	Start	Finish
78-	Mumty & Terrace.			
79-	Layout	1	4-8-20	5-8-20
80-	Steel cutting and Placing for column	1	5-8-20	6-8-20
81-	Formwork	1	6-8-20	7-8-20
82-	Concreting for column.	1	7-8-20	8-8-20
83-	Formwork of beams & slab	1	8-8-20	9-8-20
84-	Electrical Pipes distribution	1	10-8-20	11-8-20
85-	Steel cutting & Placing	1	9-8-20	10-8-20
86-	Concrete 1:2:4 slab & beams	1	11-8-20	12-8-20
87-	Form removal	1	9-9-20	10-9-20
88-	Brick masonry	3	10-9-20	13-9-20
89-	Electrical and Plumbing pipes distri.	1	13-9-20	14-9-20
90-	Plastering	3	14-9-20	17-9-20
91-	Curing	45	7-8-20	21-9-20
92-	Painting	3	17-9-20	20-9-20

	Task Name.	Duration	Start	Finish
93-	Pavement wall	10	5-8-20	15-8-20
94-	bitumen	1	15-8-20	16-8-20
95-	mud on roof	3	16-8-20	19-8-20
96-	chowka Placing.	5	19-8-20	24-8-20
97-	Exterior works & Boundary wall			
98-	layout	2	26-4-20	28-4-20
99-	Excavation	7	28-4-20	5-5-20
100-	leveling & dressing	2	5-5-20	7-5-20
101-	whiti termite.	1	7-5-20	8-5-20
102-	lean concrete	3	8-5-20	11-5-20
103-	Brick masonry	14	11-5-20	25-5-20
104-	dpc	2	15-5-20	27-5-20
105-	Brick masonry	21	27-5-20	17-7-20
106-	Plastering	7	17-6-20	24-7-20
107-	Painting	15	20-9-20	5-10-20

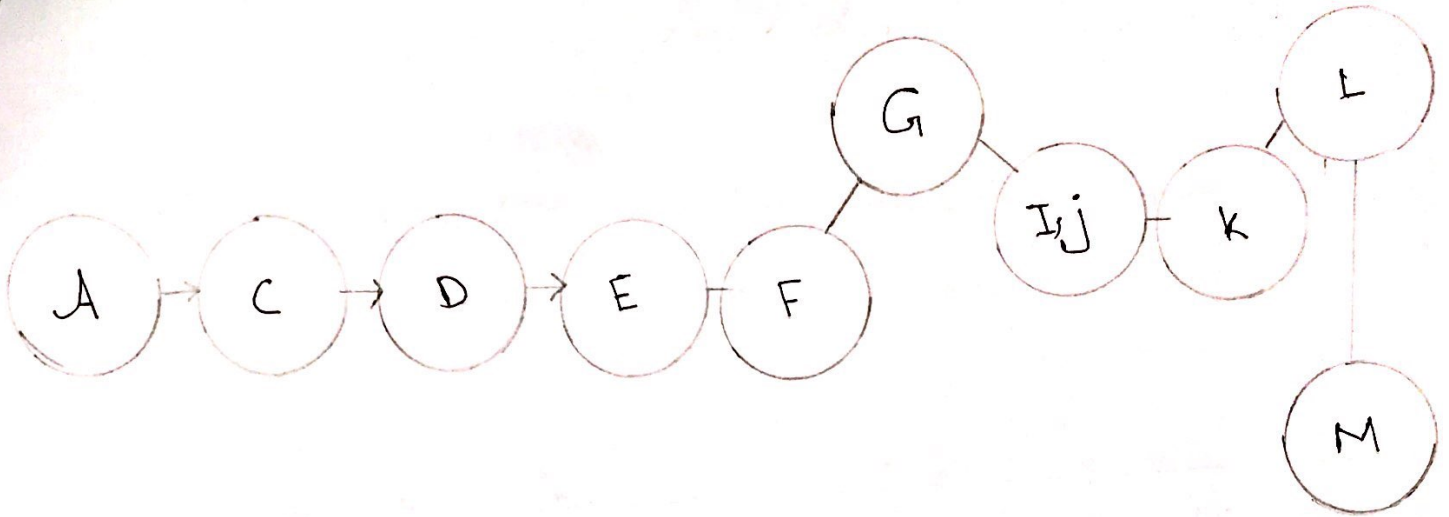
Critical Path Method of the Project

Activity		Predecessors	Duration in Weeks
• Survey	A	-	1
• Mobilization	B	-	1
• Grubbing of site	C	A	1
• Layout & Excavation.	D	C	2
• Formwork.	E	D	4
• Foundation & column	F	E	3
• Concreting (Beams & slab)	G	F	3
• Brick work	H	F	3
• Plumbing & Sanitary work	I	G, H	2
• Electrification	J	G, H	2
• Finishing	K	I, J	3
• Flooring	L	K	2
• Wood work	M	K, L	3
• Miscellaneous	N		3

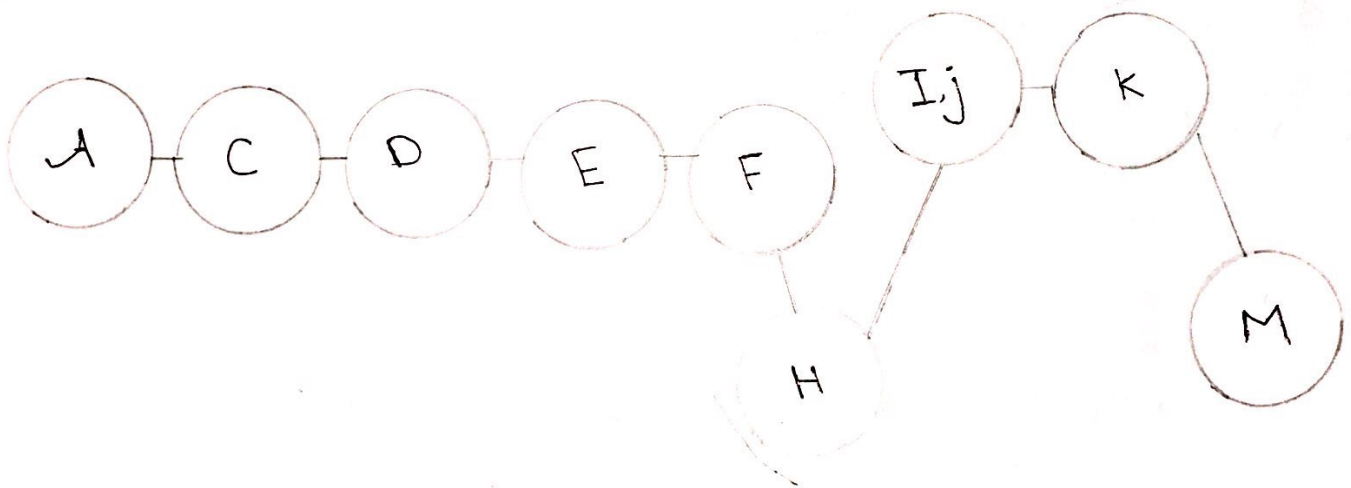
Precedence Diagram



Path A



Path B



⇒ There are two paths of our project A & B.

• Path A (ACDEFGIJKLM) having 26 weeks.

• Path B (ACDEFHIJKM) having 24 weeks.

So the critical path of our project is path A which has more time.



Question (4)

Maximum time taken by Project

As according to Forward pass and backward pass the maximum time for our project is 26 weeks.

Question (5)

Provide slack time for the activities if.

$$\text{Slack} = \text{late finish} - \text{early finish}$$

$$A = 1 - 1 = 0$$

$$C = 2 - 2 = 0$$

$$D = 4 - 4 = 0$$

$$E = 8 - 8 = 0 \text{ \& \#226; so all values comes zero so no slack time.}$$

$$\Rightarrow \text{slack} = \text{late start} - \text{early start}$$

$$A = 0 - 0 = 0$$

$$C = 1 - 1 = 0$$

$$D = 2 - 2 = 0$$

$$E = 4 - 4 = 0$$

And so on all values comes zero no slack.
