

CONSTRUCTION * MANAGEMENT

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ID * 6872

SECTION * B

SEMESTER * 8th

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Part No 10 (a)

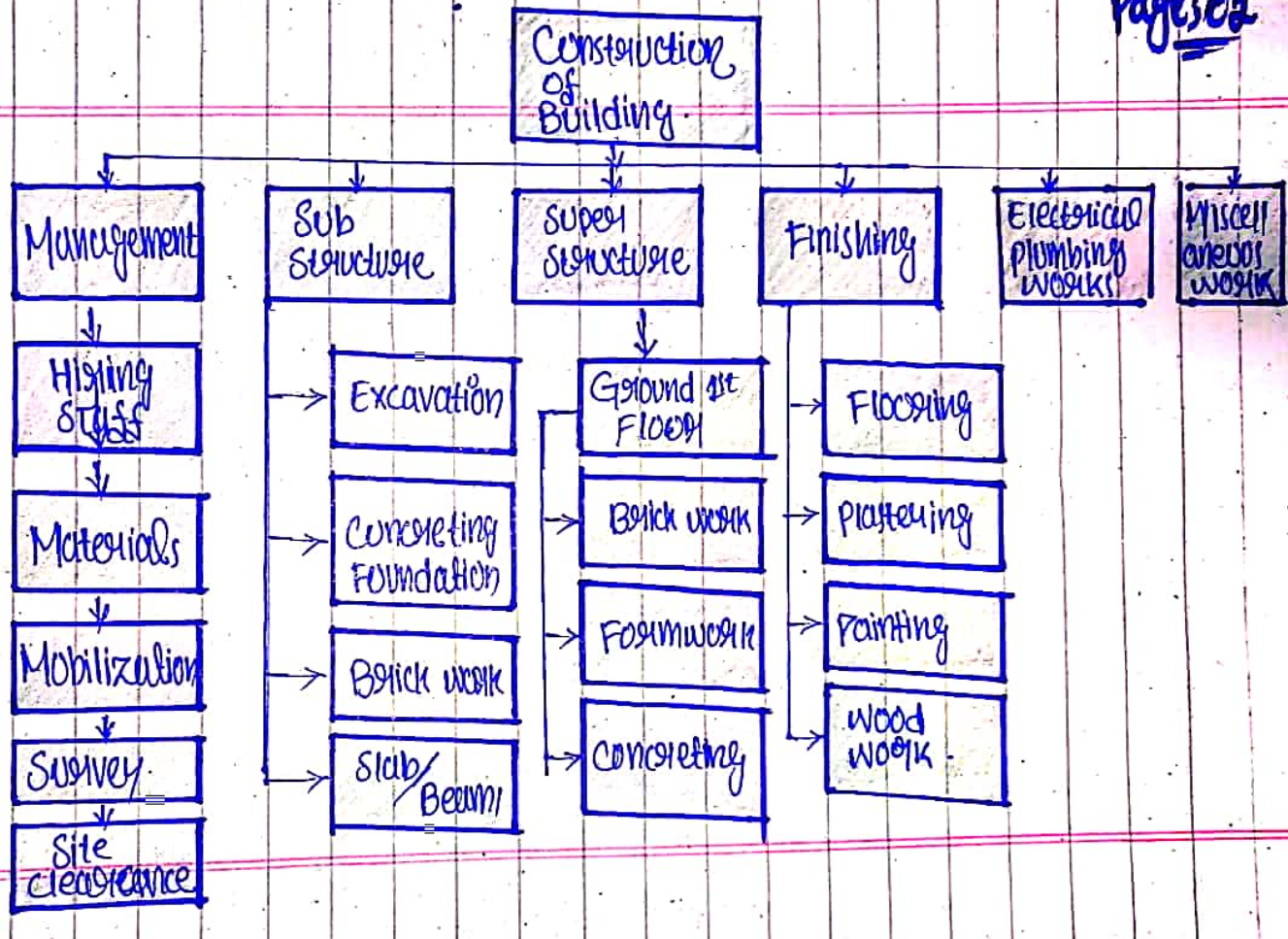
"a" 'Activity list of a Two story Building';

- "i" Survey.
- "ii" Mobilization.
- "iii" Layout and Excavation
- "iv" Foundation and Columns.
- "v" Brick masonry wall.
- "vi" Formwork.
- "vii" Concrete (Beams and Slab).
- "viii" Curing.
- "ix" Flooring.
- "x" Wood work.
- "xi" Plumbing and Sanitary work.
- "xii" Electrification.
- "xiii" Finishing.
- "xiv" Miscellaneous.



"Work Breakdown structure of Building"

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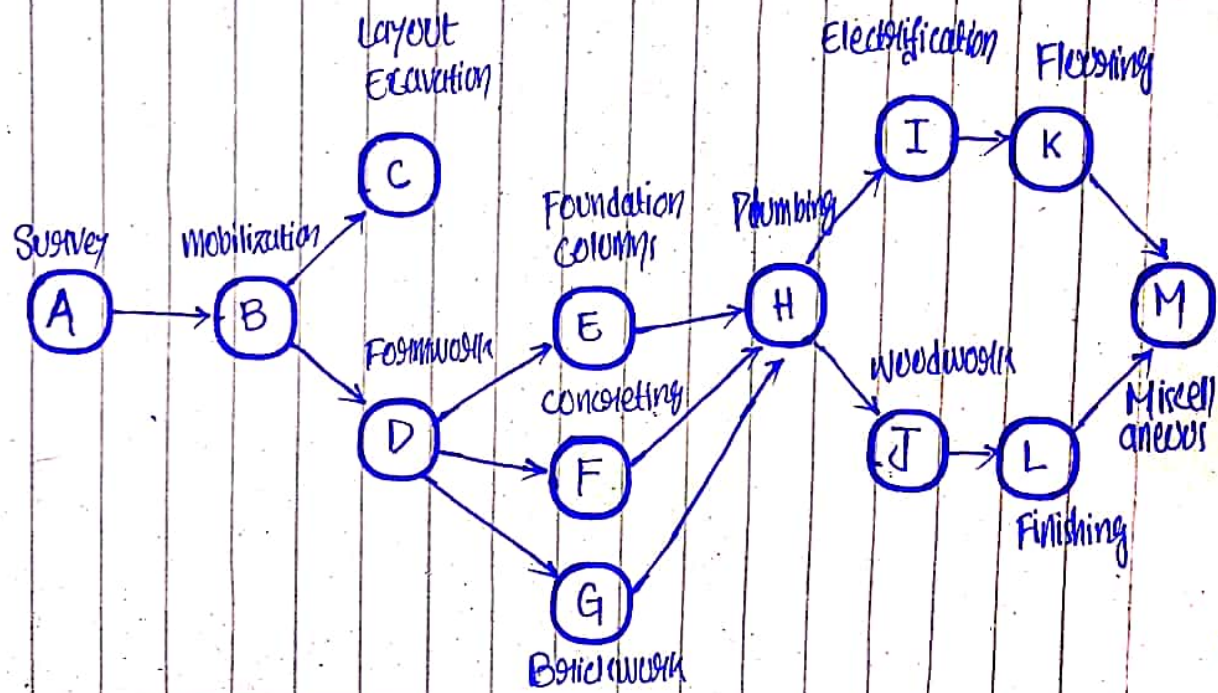


"c" Critical path method of the project;
 "Summary of Activities"

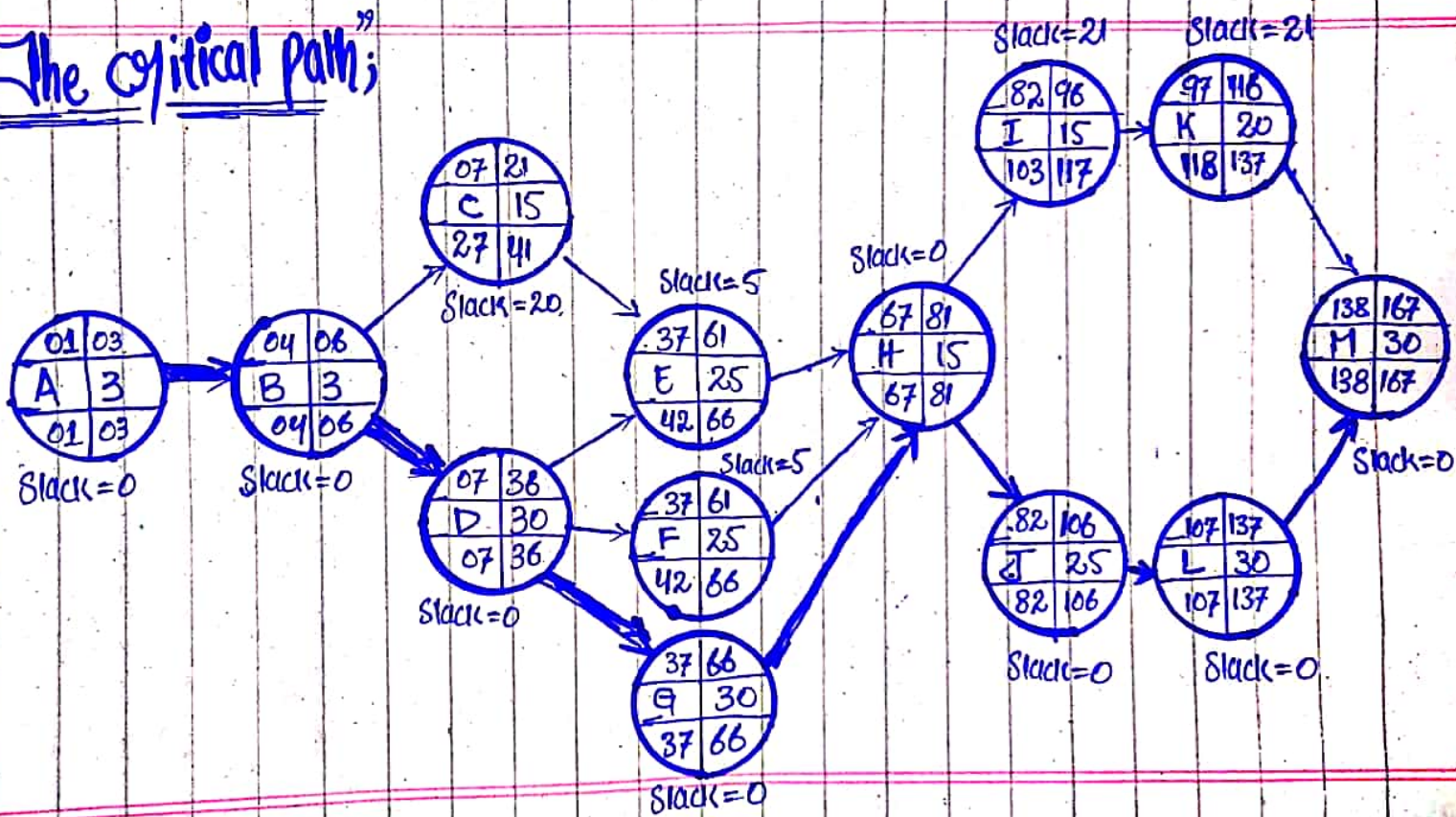
Activity		Duration (Days)	Predecessors
Survey	A	3	---
Mobilization	B	3	A
Layout / Excavation	C	15	B
Formwork	D	30	B
Foundation/columns	E	25	D
Concreting	F	25	D
Brick work	G	30	D
Plumbing / Sanitary	H	15	C, E, F, G
Electrification	I	15	H
Wood work	J	25	H
Flushing	K	20	I
Finishing	L	30	J
Miscellaneous	M	30	K, L



An Activity-on-Arrow (AOA) Network



"The critical path;"



Critical path;

- Critical activities have zero slack and cannot be delayed without delaying the completion of the project.
- The slack for non-critical activities represents the amount of time by which the start of these activities can be delayed without delaying the completion of entire project.
- The longest path on the network
- could be those activities with the least slack.
- There are many possible paths. But in all these paths;

Path (A B D E H J L M) is the (critical path)

Having more time.



"d"

"Maximum Time Taken by the project"

- As according to "forward pass" and "Backward pass" the maximum Time Taken for our project is "167 days"
(167 days)

"E" Slack Time for the activities;

$$\text{Slack} = \text{LFT} - \text{EFT} = \text{Late Finish} - \text{Early Finish}$$

There is no slack on critical path
Means path (ABDGHJLM).
While;

$$C = 27 - 07 = 20, E = 42 - 37 = 05$$

$$F = 42 - 37 = 05, I = 103 - 82 = 21$$

$$K = 118 - 97 = 21$$

