

## Iqbal National University Peshawar

Name Waqar Ul Muskh

ID 7727

Subject Construction Management

Department BE (civil)

Semester 8<sup>th</sup>

Submitted to Dr. Zeeshan Ahmad

Date 19/4/2020

(2)

## Part # a ;

(a) Activity list of a two story building ;

(i) Survey .

(ii) Mobilization .

(iii) Layout and Excavation .

(iv) Foundation and Columns .

(v) Brick masonry Walls .

(vi) Formwork .

(vii) Concreting ( Beams & Slabs ) .

(viii) Curing .

(ix) Flooring .

(x) Wood Work .

(xi) Plumbing & Sanitary Work .

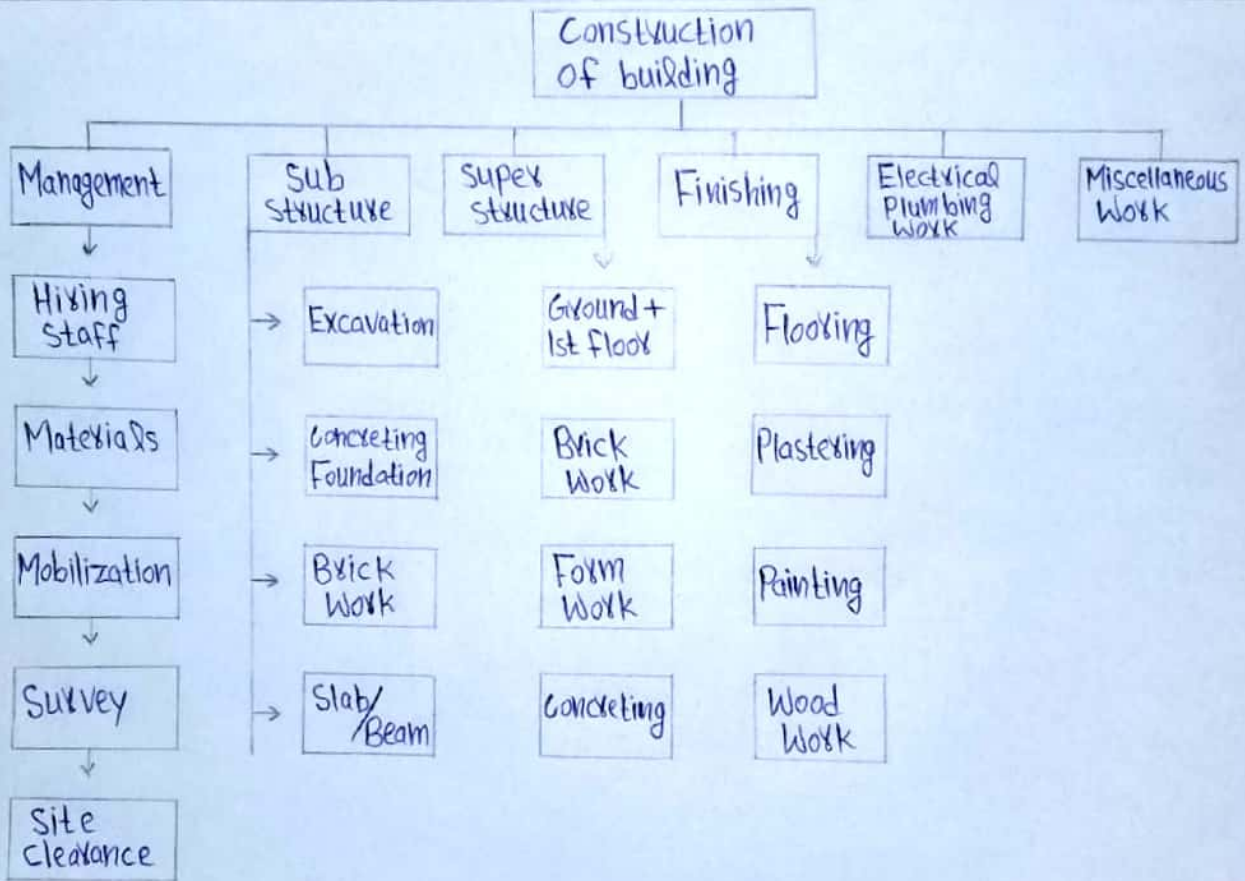
(xii) Electrification .

(xiii) Finishing .

(xiv) Miscellaneous .

(3)

"Work breakdown structure of building"



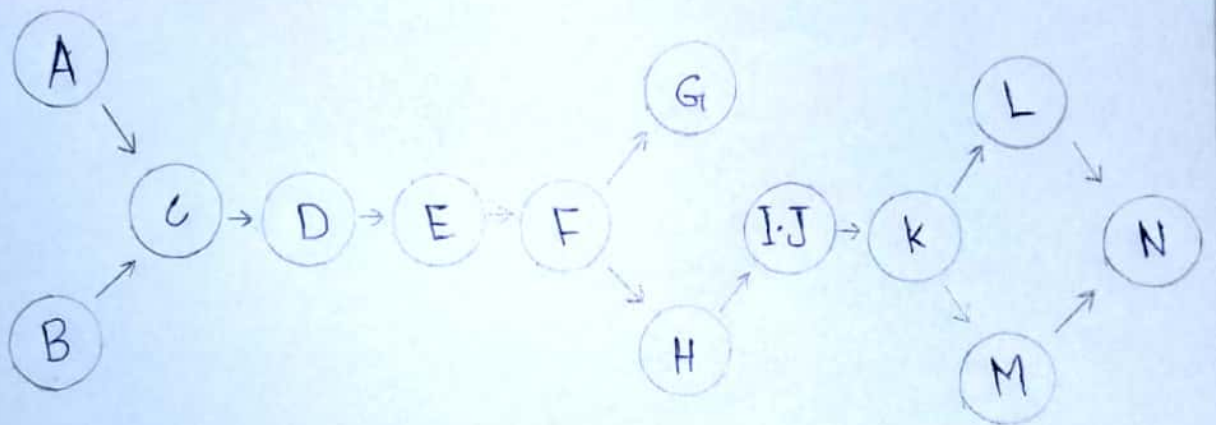


(4)

## (C) Critical Path Method of the Project

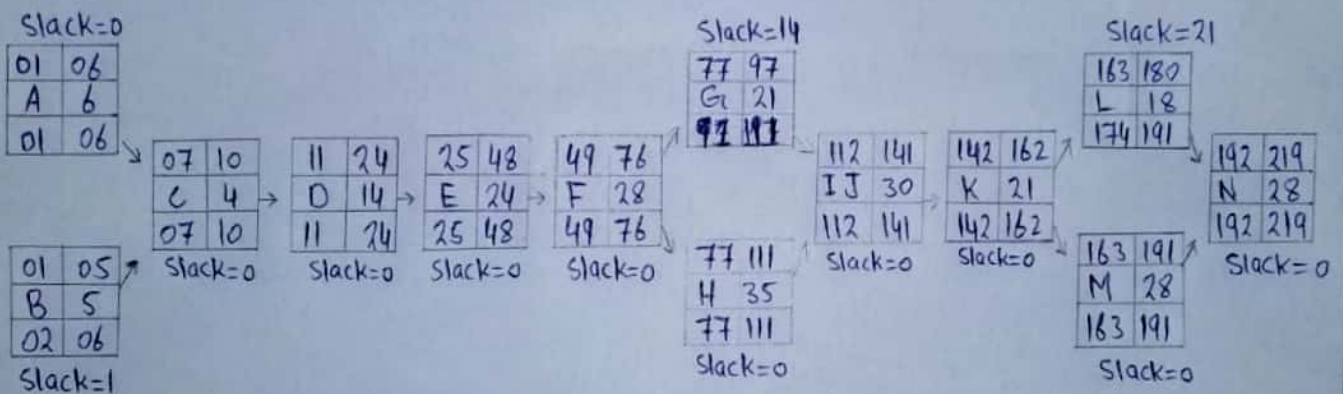
Activity		Duration	Predecessors
		Days	
Survey	A	7	---
Mobilization	B	4	---
Layout / Excavation	C	15	A
Form Work	D	26	C
Foundation / Column	E	24	D
Grubbing of site	F	6	E
Concreting	G	24	E
Brick Work	H	30	F
Plumbing / Sanitary	I	16	GH
Electrification	J	15	GH
Wood Work	K	24	IJ
Flooring	L	14	K
Finishing	M	26	K
Miscellaneous	N	35	LM

(5)



Precedence Diagram

(6)



The Critical Path

## Critical Path;

- Critical activities have Zero slack & cannot be delayed without delaying the completion of the Project.
- The slack for non-critical activities represent 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 (ACDEFGHIJKMN) is the "critical path" having more time.



Maximum time taken by the Project;  
 → As according to 'Forward Pass' and  
 'backward Pass' the maximum time taken  
 for the Project is 219 days.  
 (219 days)

Slack Time for the activities;

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

There is no slack on critical Path,  
 Path Means (ACDEFGHIJKMN).

While;

$$B = 02 - 01 = 01$$

$$G = 91 - 77 = 14$$

$$L = 174 - 163 = 21$$