

Name : Salman Abdullah Khan

ID : 7772

Section : 2

Semester : 8

Exam : Mid term

Subject : Construction Management

Date : 18/April/2020

Instructor : Engr Zeeshan Ahmad

QNO.1

Suppose you are a New Engineer hired by a Construction firm. Looking at your qualification and with little experience the firm consider your services in the Building Construction department. The director of the firm appoints you the new Construction of the house. You are assigned to prepare.

Point:

(a) An activity list of two storied building and a work breakdown structure of the project.

⇒ I Support two kanal Area/plot of having area of 10888 sq-ft.

⇒ Its double story building.

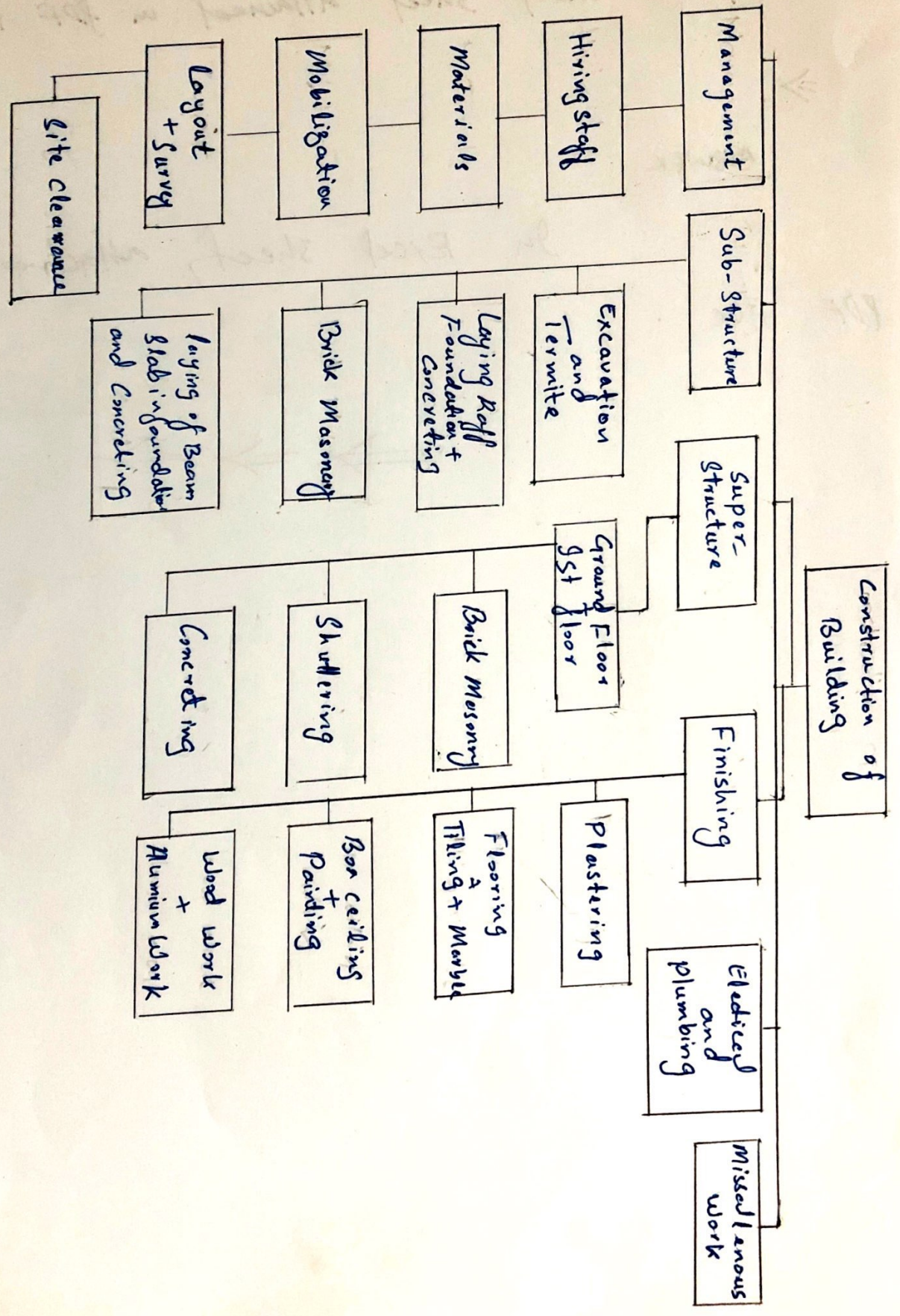
⇒ Following are the activities mentioned for dual story building.

- 1) Survey and layout
- 2) Excavation and Termite
- 3) Steel fabrication and pouring of concrete in foundation.
- 4) Curing
- 5) Fabrication of steel in Columns, Shuttering and pouring of concrete in Columns + 2nd floor
- 6) Laying of RCC in Beams Slab & Stairs, Shuttering and pouring of concrete + 2nd floor
- 7) Curing
- 8) Brick masonry non bearing wall + 2nd floor.
- 9) Flooring by Tiling, marbles etc in 2nd floor
- 10) Wood work, Timber cutting & designing door
- 11) Plumbing and Sanatory work in 2nd floor
- 12) Box ceiling in 2nd floor
- 13) Electrification in 2nd floor

14) Painting and finishing

15) Miscellaneous

Work Break down Structure of a Building



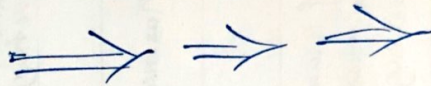
Part (b) Prepare a timeline for the completion of each activity in excel sheet attached in pdf file.

⇒.

ANSWER

In Excel sheet attached in

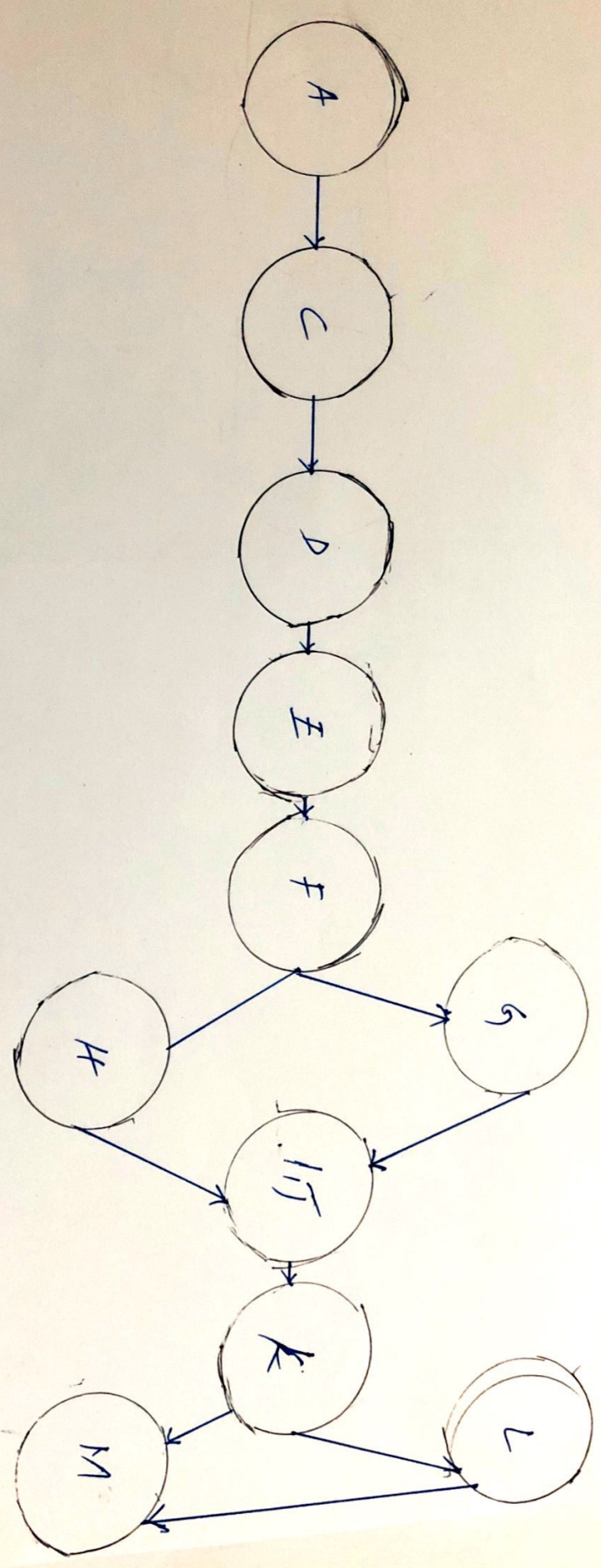
PDF file .



QNO-3 Critical path Method of the project
Part (c) :-

S. No	Activity		Predecessors	Duration in Week
1	Survey and layout	A		1
2	Excavation and Termitte	B		2
3	Steel Fabrication and concreting in Foundation	C	A	1
4	Steel Fabrication Shuttering Concreting Foundation	D	E	2
5	laying of Rec in Beam Slab & Strain shuttering + cast	E	D	3
6	Curing	F	E	2
7	Brick masonry	G	F	3
8	Flooring by tiling & marble etc	H	F	3
9	Wood work	I	G, H	3
10	Plumbing and Sanitary work	J	G, H	2
11	Box ceiling	K	I, J	2
12	Electrification	L	K	1
13	Painting and finishing	M	K, L	3
14	Miscellaneous	N		3

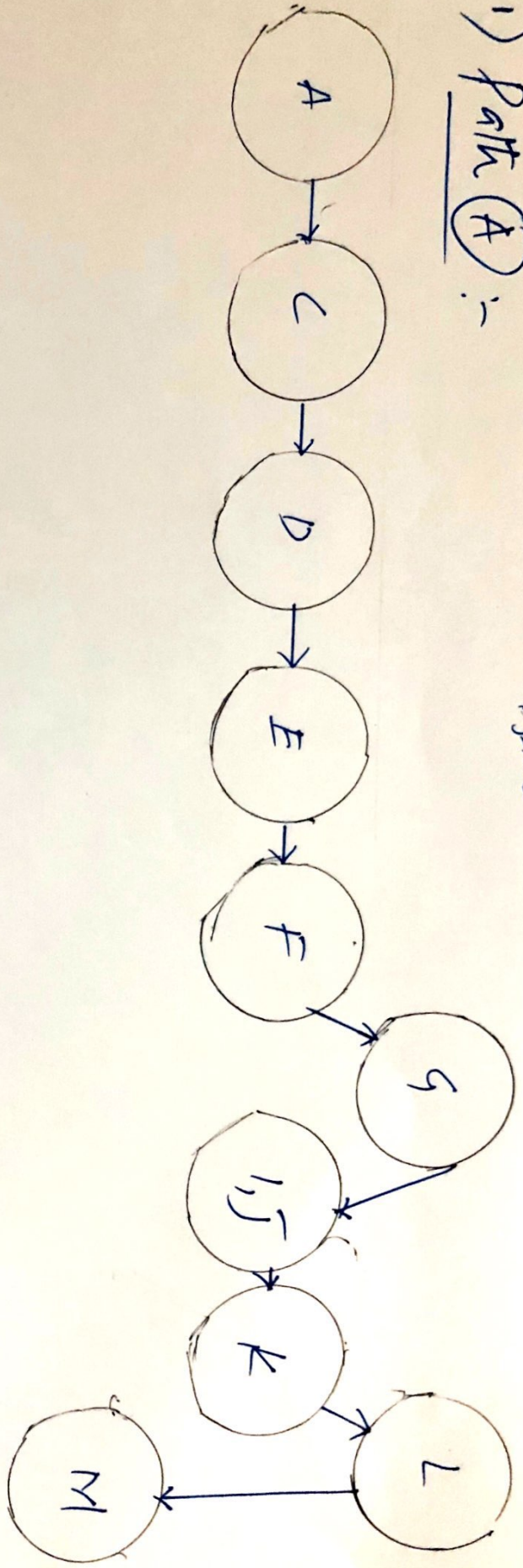
Precedence Diagram :-



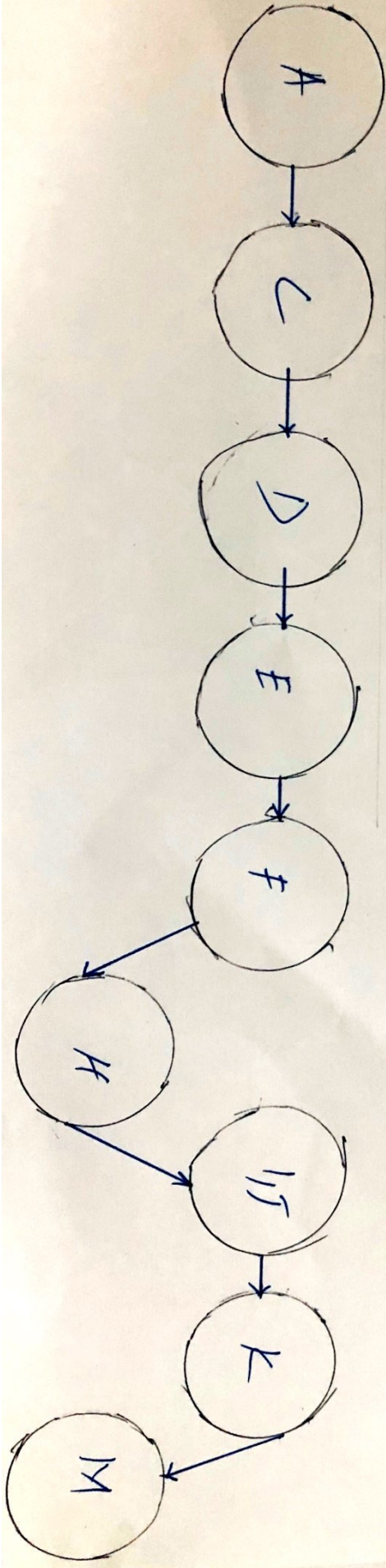
19/11/2022

Figure 8

1) Path A :-



2) Path B :-



There are two path of our project path (A) and Part (B)

Path A (A, C, D, E, F, G, I, J, K, L, M) having 23 weeks

Path B) (A, C, D, E, F, H, I, J, K) having having 22 week

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

d) Provide the maximum time taken by the project.

Fig#07

9	G	12
9	3	12

19	L	20
19	1	20

0	A	1
0	1	1
1	C	2
1	2	2
2	D	4
2	2	4
4	E	7
4	3	7
7	F	9
7	2	9

12	I	17
12	5	17
17	J	19
17	2	19

9	H	12
9	3	12

20	M	23
20	3	23

As according to forward pass and backward pass the maximum time for our project is 23 weeks.

Point (e)

Fig#08.

(e) Provide slack time for the activities if any

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

$$A = 1 - 1 = 0$$

$$C = 2 - 2 = 0$$

$$D = 4 - 4 = 0$$

$$E = 8 - 8 = 0 \text{ and so on all values}$$

comes zero so, no slack

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

$$A = 0 - 0 = 0$$

$$C = 1 - 1 = 0$$

$$D = 2 - 2 = 0$$

$$E = 4 - 4 = 0$$

And so on all values comes zero so

no slack.

Q.02 Time line of the building project

Project Name	Project Start Date	Project Duration	Project End Date	Name	Salman Abdullah Khan																							
Construction of 2 kanal House	30-Apr	340	5-Apr	ID	7772																							
Activity	Start Date	Duration	End Date	20	21	22	23	24	25	26	27	28	29	30	1-N	2-N	3-N	4-N	5-N	6-N	7-N	8-N	9-N	10	11	12	13	
PC-1	30-Apr	5	5-May												x	x	x	x	x									
Detailed Survey	5-May	3	8-May																									
Survey And Layout	8-May	2	10-May																									
Excavtion	10-May	10	20-May																									
levelling and dressing	20-May	4	24-May																									
Termite	24-May	3	27-May																									
foundation																												
lean concrete (1:4:8)	27-May	1	28-May																									
Steel Rebar Fabrication for Raft foundation	28-May	3	31-May																									
concrete 1:2:4 Foundation	31-May	2	2-Jun																									
Shuttering Foundation Retaining Wall	2-Jun	3	5-Jun																									
Concreting Foundation Retaining Wall	5-Jun	7	12-Jun																									
Curing	12-Jun	7	19-Jun																									
Shuttering for beams and slab	19-Jun	7	26-Jun																									
Pouring Concrete for beams and slab	26-Jun	10	6-Jul																									
Ground floor																												
Layout	6-Jul	2	8-Jul																									
steel cutting and placing for column	8-Jul	3	11-Jul																									
formwork	11-Jul	2	13-Jul																									
concreting for column	13-Jul	2	15-Jul																									
Curing	15-Jul	1	16-Jul																									
form work for beams and slab	16-Jul	2	18-Jul																									
concreting for beams, slab	18-Jul	4	22-Jul																									
Curing	22-Jul	1	23-Jul																									
brick masonry	23-Jul	5	28-Jul																									
sanitation work	28-Jul	3	31-Jul																									
plastering	31-Jul	4	4-Aug																									
floor concreting	4-Aug	5	9-Aug																									
ceiling	9-Aug	15	24-Aug																									
wood works	24-Aug	8	1-Sep																									
sanitary fixtures	1-Sep	3	4-Sep																									
First floor																												
Layout	4-Sep	1	5-Sep																									
steel cutting and placing for column	5-Sep	2	7-Sep																									
formwork	7-Sep	5	12-Sep																									
concreting for column	12-Sep	6	18-Sep																									
Curing	18-Sep	10	28-Sep																									
form work for beams and slab	28-Sep	7	5-Oct																									
concreting for beams, slab	5-Oct	2	7-Oct																									
Curing	7-Oct	1	8-Oct																									
brick masonry	8-Oct	2	10-Oct																									
sanitation work	10-Oct	15	25-Oct																									
plastering	25-Oct	5	30-Oct																									
floor concreting	30-Oct	15	14-Nov																									
ceiling	14-Nov	15	29-Nov																									
wood works	29-Nov	5	4-Dec																									
sanitary fixtures	4-Dec	10	14-Dec																									
mumty																												
steel cutting and placing for column	14-Dec	3	17-Dec																									
formwork	17-Dec	5	22-Dec																									
concreting for column	22-Dec	5	27-Dec																									
Curing	27-Dec	5	1-Jan																									
form work for beams and slab	1-Jan	5	6-Jan																									
concreting for beams, slab	6-Jan	3	9-Jan																									
Curing	9-Jan	1	10-Jan																									
brick masonry	10-Jan	5	15-Jan																									
parapet wall	15-Jan	7	22-Jan																									
bitumen	22-Jan	3	25-Jan																									
mud on roof	25-Jan	2	27-Jan																									
chowka placing	27-Jan	5	1-Feb																									
Exterior works and Boundry wall																												
Layout	1-Feb	1	2-Feb																									
Excavtion	2-Mar	3	5-Mar																									
levelling and dressing	5-Mar	3	8-Mar																									
anti termite	8-Mar	5	13-Mar																									
lean concrete	13-Mar	3	16-Mar																									
brick masonry	22-Jan	10	1-Feb																									
dpc	16-Mar	5	21-Mar																									
brick masonry	21-Mar	15	5-Apr																									
plastering	16-Mar	5	21-Mar																									
painting	21-Mar	5	26-Mar																									