

- 1- Draw activity on arrow diagram to identify the critical path and project duration
- 2- Draw activity on node diagram to provide extra details, including the float for all activities.

**Exercise 1:**

Task	Predecessors	Duration	Resource
A	-	1	R1
B	A	2	R1
C	B	3	R2
D	B	1	R2,R3
E	B	2	R2
F	E	1	R2
G	D	1	R2
H	C	2	R2
I	G	3	R3,R4
J	H	2	R4
K	F	1	R4
L	K	3	R3,R4
M	M	2	R3

**Exercise 2:**

Activity	Code	Duration	Predecessors
Preparatory Works	A	3	-
Excavation Works	B	5	A
Foundation Works	C	10	B
Column Structure Works	D	12	C
Sloof Works	E	6	C
Wall and Frame Works	F	12	E
Roof Truss Works	G	10	D
Roof (Ceilings and Tiles) Works	H	17	G
Sanitary Works and Electrical Installations	I	20	F,H
Plaster Works	J	25	F,H
Floor Works	K	18	I
Installation Works (Lamps, Glass, Doors, Windows, Switches, Outlets, Locks, Sanitation)	L	15	F
Painting Works	M	30	J,K
Fencing Works	N	10	L
Complementary Works	O	6	M,N

**Exercise3:**

Task	Duration	Predecessors	Resource
A	15	-	R1
B	23	A	R1
C	17	B	R1
D	42	B	R2
E	15	B	R3
F	37	C,	R2
G	5	D, E	R1
H	12	F, G	R2
I	34	H	R4
J	27	H	R3
K	18	I, J	R3
L	7	K	R4

**Exercise 4:**

Task	Duration	Dependencies
T1	10	
T2	15	T1
T3	10	T1, T2
T4	20	
T5	10	
T6	15	T3, T4
T7	20	T3
T8	35	T7
T9	15	T6
T10	5	T5, T9
T11	10	T9
T12	20	T10
T13	35	T3, T4
T14	10	T8, T9
T15	20	T2, T14
T16	10	T15

**Exercise5:**

Activity no.	Activity	Duration	Preceding
	<b>Chair</b>		
1	Anatomical study for chair	15	-
2	Design chair	5	1
3	Buy materials for chair seat	6	2
4	Make chair seat	3	3
5	Buy chair castors	5	2
6	Buy steel for chair frame	10	2
7	Make chair frame	3	6
8	Paint chair frame	2	7, 21
9	Assemble chair	1	4, 5, 8
10	Apply final finishes to chair	2	9
	<b>Desk</b>		
11	Design desk	10	-
12	Buy steel for desk frame	10	11
13	Make desk frame	5	12, 15
14	Paint desk frame	2	13, 21
15	Buy wood and fittings for desk	5	11
16	Make desk drawer	6	15
17	Make desk top	1	15
18	Assemble desk	1	14, 16, 17
19	Apply final finishes to desk	2	18
	<b>General activities</b>		
20	Decide paint colours	10	-
21	Buy paint and varnish	8	20
22	Final project evaluation	5	10, 19