

# Q1) Online Ticket Management System.

## i) Activities:

Task ID	Activity	Duration	Predecessor
A	Req. & Planning	2	-
B	System UI & des	2	A
C	Backend + DB	6	B
D	Frontend Implement	5	B
E	Integration, test	3	C, D

Step 1: Forward Pass: Find EB & EF.

First activity  $\rightarrow ES = 0$

$EF = ES + \text{Duration}$ .

For activities with multiple predecessors

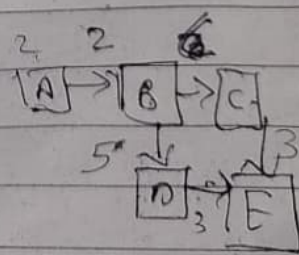
$ES = \max \text{ of } EF \text{ of predecessors.}$

Activity	Duration	Predecessor	ES	EF
A	2	-	0	2
B	2	A	2	4
C	6	B	4	10
D	5	B	<del>4</del> $\max(2, 4) = 4$	<del>9</del> $4 + 5 = 9$
E	3	C, D	$\max(10, 9) = 10$	13

The critical path is longest time path through the network - the one that gives total project duration = (13 days).

Path	Duration
A-B-C-E	$2+2+6+3 = 13$
A-B-D-E	$2+2+5+3 = 12$

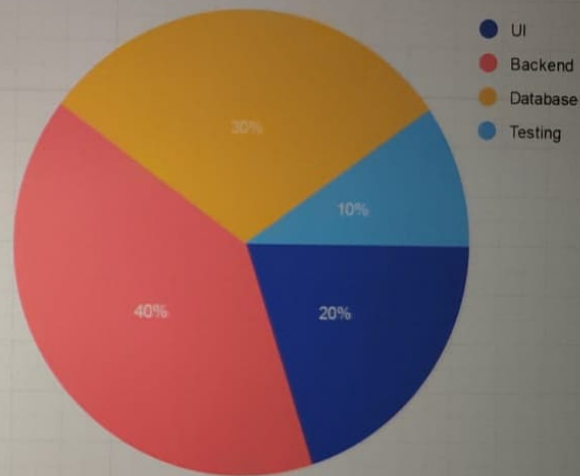
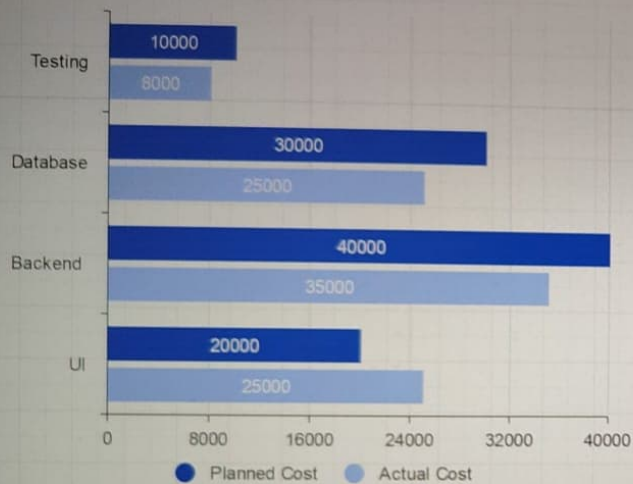
longest Path = A-B-D-E  
taking 12 days.



Step 2: Assume cost, budget & resources for each

Activity	Planned (₹) Cost	Actual (₹) Cost	Planned Resource	Actual Resource.
A	10,000	9,000	2	2
B	15,000	16,000	3	5
C	30,000	32,000	4	3
D	25,000	22,000	3	5
E	20,000	26,000	4	2
Total	1,00,000	1,05,000	16	17

## Online movie ticket management system



Resource Allocation



MC = £ 80,000,00

9,000,000

CPT = 1.0125  $\Rightarrow$

Under Budget  $\Rightarrow$  Behind Schedule.

SPT = 0.9

## 10) Project Summary:

1. Project Name: Online Home Delivery Mgmt System
2. Objective: Manage orders, delivery tracking, customer records, payment ~~and~~ delivery agents
3. Duration: 90 weeks
4. Total Budget: £10,00,000
5. Overall Progress: 60% completed.

## 2) Allocated Resources:

Resource	Quantity	Role
1. Developers	3	Backend + Frontend
2. UI/UX Designer	1	screens + UI
3. Database Admin	1	DB Design
4. Delivery Domain Expert	1	Req. Analysis
5. QA Tester	1	Testing.
	7	

## 3) Project Completion Cost & Budget

Activity	Budgeted Cost	Actual Cost
1. Development	₹ 6,00,000	₹ 5,00,000
2. Database Setup	₹ 2,00,000	₹ 1,50,000
3. Testing	₹ 1,00,000	₹ 70,000
4. Deployment	₹ 1,00,000	Pending

Total Budget : ₹ 1,00,0000

Actual spent: ₹ 7,20,000

Balance: ₹ 2,80,000

## 4) Alloted Tasks:

Activity	Status
1. Req. & Plan	Completed
2. UI Design	Completed
3. Backend	<del>Completed</del> In Progress
4. Database	Completed
5. Testing &	Pending
6. Deployment	



CPM :

Activity :	Desc.	Duration	Predecessor.
A	Req. gather	1	-
B	UI Design	2	A
C	Backend	3	B
D	Database	2	B
E	Integration	1	C, D
F	Delivery Module	2	C
G	Testing	2	E, F
H	Deployment	1	G

Forward Pass.	Duration	Predecessor	ES	EF
A	1	-	0	1
B	2	A	1	3
C	3	B	3	6
D	2	B	3	5
E	1	C, D	$\max(6, 5) = 6$	7
F	2	C	6	8
G	2	E, F	$\max(7, 8) = 8$	10
H	1	G	10	11

Critical Path:

A → B → C → F → G → H ⇒ 11 weeks.

