

Indian Institute of Information Technology,
Sri City.

End Semester Examinations.

- I TPM :-

6).

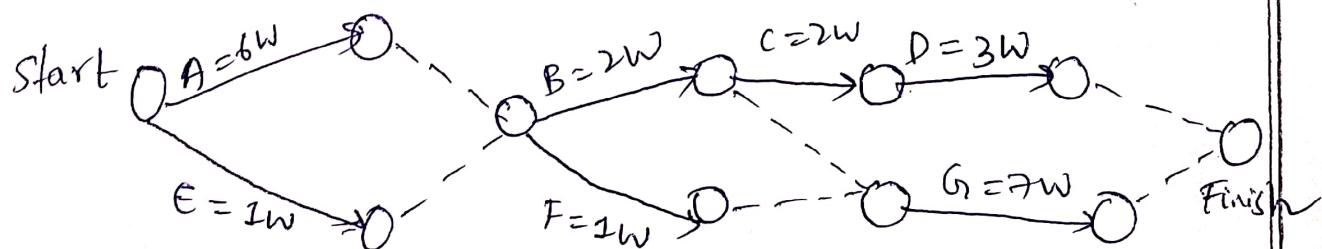
Critical Path :-

→ CPM (Critical Path Method) is a diagramming technique used to predict total project duration with the help of networks.

How to calculate critical path :-

- first develop a good network diagram.
- Add the duration estimates for all activities on each path.
- the longest path is critical path.

Network diagram :-



Path 1 $A \rightarrow B \rightarrow C \rightarrow D \rightarrow \text{Finish}$
 $= 6 + 2 + 2 + 3 = 13 \text{ weeks}$

Path 2 $A \rightarrow B \rightarrow G \rightarrow \text{Finish}$
 $= 6 + 2 + 7 = 15 \text{ weeks}$

Path 3 $E \rightarrow B \rightarrow C \rightarrow D \rightarrow \text{Finish}$
 $= 1 + 2 + 2 + 3 = 8 \text{ weeks}$

Path 4 $E \rightarrow F \rightarrow G \rightarrow \text{Finish} = 1 + 1 + 7 = 9 \text{ weeks}$

Path 5 $A \rightarrow F \rightarrow G \rightarrow \text{Finish} = 6 + 1 + 7 = 14 \text{ weeks}$

Path 6 $E \rightarrow B \rightarrow G \rightarrow \text{Finish}$
 $= 1 + 2 + 7 = 10 \text{ weeks}$

Path 2 is critical path [?; $A \rightarrow B \rightarrow G \rightarrow \text{Finish}$]
 \rightarrow It is critical path because out of all paths
maximum is considered by maximum is
15 weeks.

\therefore Thus, Path 2 is critical path

Process group :-

- It refers to the 5 phases of a project life cycle.
- It refers to how an organization's members work together to get things done.
- 5 process groups in project management are :-
 - 1) Project Initiation
 - 2) Project Requirements definition and planning
 - 3) Project Execution
 - 4) Project performance monitoring and cost control.
 - 5) Project closeout.

Knowledge areas :-

- the project knowledge areas refer to various aspects of a project and cover all processes.
- It also refers to documentation necessary to plan, manage, and complete a project.
- there are 10 knowledge areas in project management.

They are :-

- 1) Project Scope Management.
- 2). Project Time Management
- 3) Project Cost Management
- 4) Project quality management
- 5) Project human resource management
- 6) Project communication management
- 7) Project risk Management
- 8) Project Procurement Management
- 9) Project Stakeholder management
- 10) Project integration management

thus, these were 5 process groups
and 10 knowledge areas in project management.

5) COQ (Cost of Quality) :

It is defined as a methodology that allows an organization to determine the extent of which its resources are used for activities that prevent poor quality., quality of organization's products and services, and that result from internal and external failures

- Cost of quality is a method for calculating the costs companies incur ensuring that product meets quality standards.
- It also refers to as cost of producing goods that fail to meet quality standards.
- the goal of calculating cost of quality is to create an understanding of how quality impacts the bottom line.

5) Quality Control Tools

- 1) Flow chart It is used for document work process flow and organizational structures
- 2) Check sheets It is used to collect data, used to note numbers of items an event occurred.
- 3) Cause & effect It shows many possible causes of a problem. Fishbone problem → The diagram resemble the structure of fifth bone set where all elements Spine off on Spine are the causes and head represents effects.

- 4) Pareto chart: It depicts the Bar graph of the data showing frequencies of an occurred event most significant problems stand out and can be targeted first.
- 5) Control chart: It is used to plot data overtime and explains the movement of data. Also checks the consistency of data.

80/20 Rule

- Pareto charts talk about 80/20 rule.
- It states that 80% of the benefit comes from 20% of work & conversely 80% of problems can be tracked by 20% of causes.

3) Full form of ITO is Inputs, Tools, Techniques and outputs. The main 5 activities of scope management after planning scope management after planning scope management are:

- (i) Collecting Requirements: We need to understand stakeholder requirements and document budget, expectations etc.

(ii) Define Scope: In this step, requirements will be turned into a detailed description of the project so that we have a scope statement to refer to.

(iii) Create Workbreakdown Structure:

It is a document that breaks down all the work which needs to be done in the project.

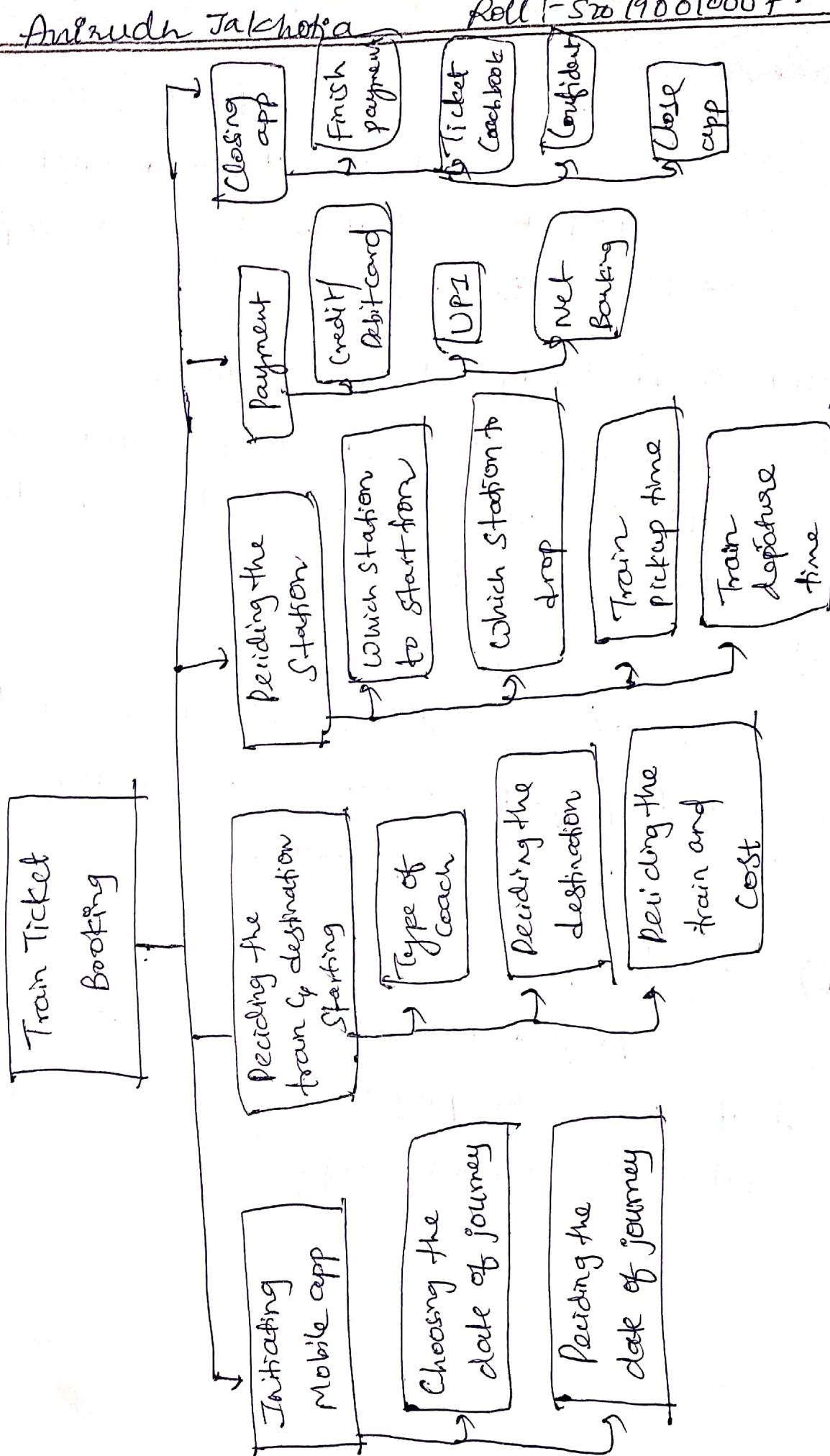
(iv) Validating Scope:

Scope that we defined should be sent to project executives and stakeholders to get necessary approvals.

(v) Control Scope:

Project managers should ensure that when the project begins, it stays within the defined scope.

Online Train Ticket Booking WBS



- 4) → Full form of PDCA is Plan-Do-Check-Act,
→ It is an effective approach for solving problems
and managing change. It is useful for
testing improvement measurements

Gold plating,

It is the process ⁱⁿ requirements are met, the developer or project manager works on further enhancing the product. thinking that the customer will be surprised and delighted to see it

It is a bad practice in project management. because the client / customer might be disappointed with the results and extra effort by the developer is wasted. Even, if client likes what was added extra, gold plating causes further delays and increased costs.

Sometimes, you may lose the client too. So, gold plating must be avoided in project management.

It is very risky during project execution phase. However, it can backfire because you have added new features to the product without client's approval. It is difficult with factors like project cost, time and scope.

1) Characteristics of a project

- the project must be specific
- the project must bring relevant benefits to the concerned person
- It has to be achievable
- It needs to have a start date, end date, it is temporary, ie, time bound.
- It has to give some particular, unique result.
- the benefits and achievements of the project should be measurable.

Difference between Project & Operation

Please turn over

Project vs

Operation vs

- It is temporary as it does not exit after the goal is achieved.
- the budget is defined for products.
- A project is undertaken to create a new kind of product.
- It has more risk as it is done for final time.
- No time span.
- Maintain specific profit margin.
- continuous & repetitive.
- It is permanent as it only exists after the product is made and can go forever.
- the budget for operations is kept flexible as earning need to be done to keep operations alive.
- It is not new as it is just a process of making products.
- It has less risk as it is continuous.
- Definite time span.
- Have to stick with definite budget.
- Terminates after finishing.

Examples:

- In project, suppose we work on some product like making burgers, etc. Here, we make burgers for first time and deliver. This process is not continuous and has an end time.
- Whereas, in case of operation in same case of burgers we must keep on manufacturing it and deliver it continuously.