CHAPTER 4
PROJECT PLANNING, SCHEDULING AND MONITORING

4.1 What is project planning?

Project planning is foreseeing with blueprint towards the some predicted goals or objectives. It is a skeleton which consists of large number of activities with its future prospects. It is also a guided activity.

4.2 Need for project planning

1. To define completely all works.
2. To eliminate uncertainty.
3. To improve efficiency of the operation.
4. To obtain better understanding of the objectives.
5. To provide a basis for monitoring & controlling the work.

4.3 Functions of project planning

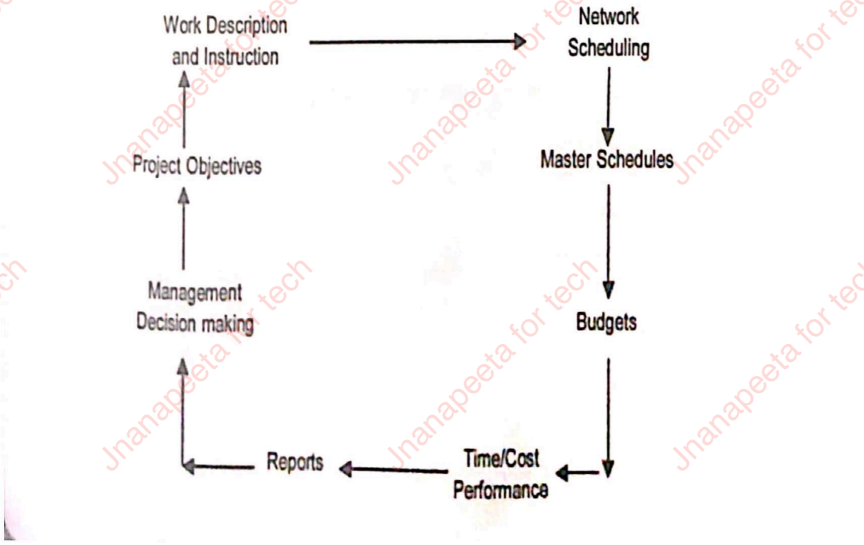
1. It should provide a basis for organizing the work on the project.
2. Allocating responsibilities to individuals.
3. It is a means of communication and co-ordination between all those involved in the project.
4. It induces the people to look ahead.
5. It establishes the basis for monitoring and control.
6. It instills a sense of urgency and time consciousness.

4.4 Steps in project planning (3 steps in project planning decision)

1. An individual becomes aware of available courses of actions.
2. He should each alternative.
3. He should select proper alternative course of action among the available one.

4.5 Project planning structure

The various activities involved in Project planning is given in the following chart as Project Planning Structure.



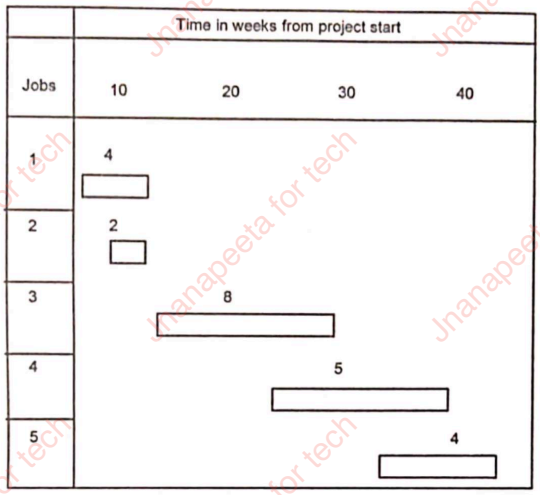
4.6 Importance of project objectives and policies

The objectives and policies are very important while planning the project. If the project team lacks a clear goal even excellence skills and the best equipment will not enable the team to do a good job. Well defined objectives and policies serve as the framework for the decisions to be made by the project manager. The objectives of the project may be technical objective, performance objective, time and cost goals. Policies are the general guide for decision making on individual actions. Some of the policies of the project are, extent of work given to outside contractors, number of contracts to be employed, terms of the contract, etc.

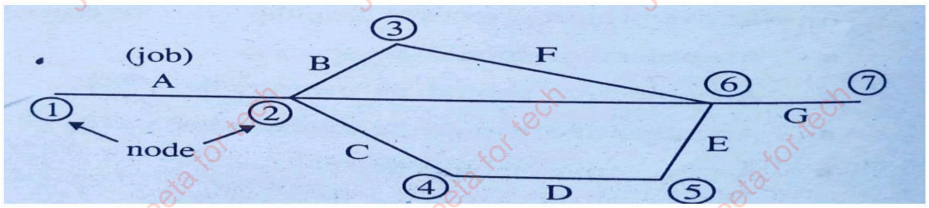
4.7 Tools for project planning

1. Gantt chart
2. Network Techniques
3. Project design
4. Time estimates

1. In a **Gantt chart**, the activities of project are broken down into a series of well-defined jobs of short duration whose cost and time can be estimated. It is a tool in which the activities or jobs are represented by horizontal bars in the time access. The length of the bar indicates the estimated time for the job. The left end of the bar shows the beginning time and the right end shows the end time. The manpower required for the activity is shown by the number on the bar. The project review dates are indicated by a vertical dotted line and at this time horizontal line is drawn below each bar to indicate the progress actually made up to the date. The length of the progress line is then drawn to represent the percentage of the job that has been completed at the review date.



2. In **Network Techniques**, a network diagram is used to represent the activities, events and their inter-relationships. A network is drawn in which the lines between the nodes represent the jobs, the nodes being numbered to identify the jobs.



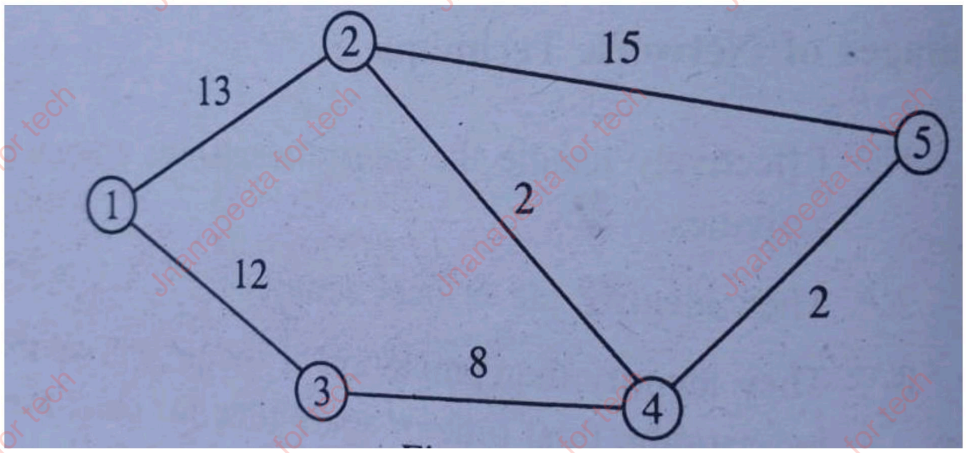
3. **Project design** defines individual activities and their inter-relationships with each other. It identifies the flow of events which must take place before the project can start and giving the results for which it has been set up. It is detail work plan of project with their time schedule.

4. The **time estimation** for completing the project involves the calculation of three time values for each activity of a project and these are:
   - **a) Optimistic time (to)**: It is the time required to complete the activity if no hurdles or complications arise.
   - **b) Most likely time (tm)**: It is the time in which the activity is most likely to be completed by considering the normal circumstances and making allowance for some unforeseen delays.
   - **c) Pessimistic time (tp)**: It is the time required to complete the activities if unusual complications or unforeseen difficulties arise.

Example:

The time estimates for various activities of a project as follows :

Activity	Time estimate			$t_e = \frac{t_o + 4t_m + t_p}{6}$
	t_0	t_m	t_p	
1 - 2	9	12	21	13
1 - 3	6	12	18	12
2 - 4	1	1.5	5	2
3 - 4	4	8.5	10	8
2 - 5	10	14	24	15
4 - 5	1	2	3	2



4.8 Project scheduling

Project scheduling objectives:

1. To know the nature and significance.
2. To study effectiveness of time monitoring.
3. Applicable of schedule in a view of resource constraints.
4. Emphasis on project cost monitoring.
5. Process of value engineering.

Project scheduling purpose:

1. To provide physical comparison with reality.
2. Adopt schedule to changed realities.
3. To obtain commitment.
4. Communicate commitment to concerned project personnel.
5. Co-ordination through self regulation.
6. Review lapses.

4.9 Time monitoring efforts

1. Conduct the appreciation program for owner.
2. Development of project execution plan.
3. Development of project implementation schedule.
4. Conduct reviews with owner, consultants, contractors and vendors.
5. Project audit.
6. Monthly progress report to the owners.

4.10 Situation analysis

Situation analysis is a process through which the general characteristics and problems of community are identified. It involves the identification and definition of the characteristics and problems specific to particular categories of people in the community. It is done through collecting information necessary to understand the community as a whole and individuals within the community. Information should be collected on what happened in the past, what is currently happening based on the community's experiences. Information for Situation analysis should be collected with the involvement of the community members using below mentioned techniques: (**any six**)

1. Document's review
2. Surveys

3. Discussions with individuals, specific groups and the community as a whole
4. Interviews
5. Observations
6. Listening to people;
7. Brainstorming
8. Informal conversations
9. Problem tree

4.11 Setting goals and objectives. OR Explain the application of "SMART" tool for setting goals and objectives.

A goal is a general statement of what should be done to solve a problem. Objectives are finite sub-set of a goal and should be specific in order to be achievable. The objectives should be "SMART." They should be:

1. **Specific:** clear about what, where, when, and how the situation will be changed
2. **Measurable:** able to quantify the targets and benefits
3. **Achievable:** able to attain the objectives
4. **Realistic:** able to obtain the level of change reflected in the objective; and
5. **Time bound:** stating the time period in which they will each be accomplished.

4.12 Generating structures and strategies

It involves following.

1. Discussing and agreeing on the activities are to be undertaken during implementation.
2. Defining and deciding the different actors inside and outside the community and their roles.
3. Defining and distributing the costs and materials necessary to implement the project.

4.13 Implementation

In this stage all the planned activities are put into action. The implementers should identify their strength, weakness, opportunities and threats. Monitoring is also important to ensure that the activities are implemented as per the plan, which helps in measuring how well they are achieving the targets.

4.14 What is project evaluation? Analyze the importance of project evaluation

Project evaluation is a step-by-step process of collecting, recording and organizing the information about the project results, short term outputs and long term outputs.

Project evaluation provides answers to several aspects such as

a. Progress made.
b. Desired output achieved.
c. Improvements to be made for better outcome.
d. Whether the results justify the input etc.

4.15 What are the challenges in monitoring and evaluation?

1. Getting commitment to do it.
2. Establishing the base line at the beginning of the project.
3. Determining the time to do it and sticking on to it.
4. Getting the feedback from the stakeholders.
5. Reporting back to the stakeholders.