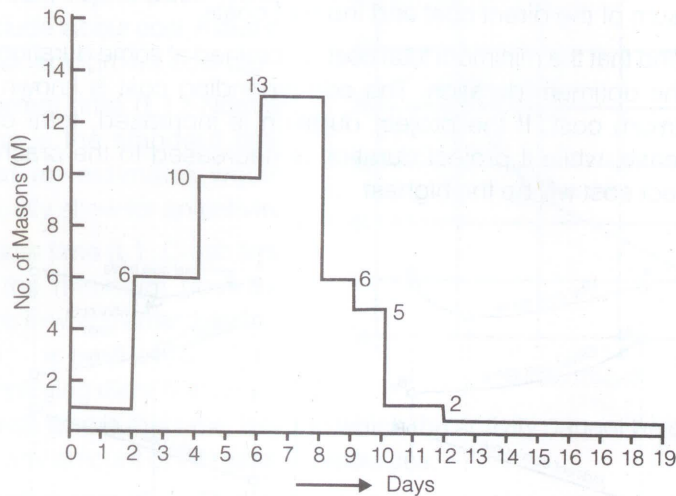


4.

RESOURCE ALLOCATION & CPM UPDATING

- 'Resource' is a physical variable required for completion of activities. It can be material, manpower, machinery, space, money or time resources.
- "Resource allocation" is deciding the resources to each activity.
- The diagram which shows variation in the requirement of resources with time is called "Resource usage profile" or "Histogram".



These are helpful to know requirement of resources at different time in different activities.

METHOD TO ACHIEVE RESOURCE ALLOCATION

1. Resource Smoothing

In resource smoothing the total project duration is not changed but the activities having floats are rescheduled so that a uniform demand for the resources is achieved. Thus in this case there is constraint on project duration. There is however no constraint on the resources.

2. Resource Levelling

In resource levelling, the activities are so rescheduled that the maximum or peak resources requirement does not cross the limit of available resources. In rescheduling the available floats are used first. If by doing

so, the resources demand is more than the available resources, the duration of some of the activities is increased so that the resources requirements for these activities is decreased. Thus in this process, the project duration initially planned might be increased.

NOTE

Resource smoothing and resource levelling both are trial and error methods.

CPM UPDATING

- The process of reviewing the progress of project execution and redrafting the network according to latest requirements is called "updating".
- During redrafting scheduled dates are revised. New critical path may appear hence project priorities may change.
- Crashing of new critical activities may be required to make project on schedule.
- Updating is necessary to compensate for deviations in actual execution of works and original plans.
- During the process of the updating neither activities are deleted nor new activities added.



Remember

When to update:

1. Updating should be more frequent for shorter duration projects.
2. For larger duration projects frequency should be increased as project is nearing completion.
3. Whenever major change in the duration of any of activity occurs then updating should be done.
4. If change in estimated duration occurs, updating is essential.