IIT ROORKEE

NPTEL ONLINE CERTIFICATION COURSE

Project Management for Managers

Lec- 46

Slacks & Floats- II

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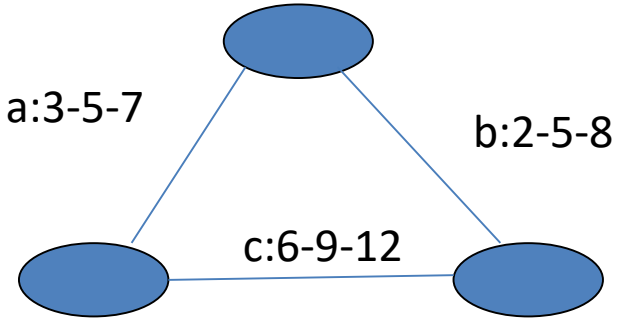
Limitations of Networks: There are some assumptions in networks, which may not be practical. Some of them are: **No activity can be repeated**, though at times many activities have to be repeated, when scope is not met or quality of work is not satisfactory.

All immediate precedence activities have to be completed before starting the activity; although at **times even after completion of few precedence activities, the later activity can start and go concurrently** with predecided precedence activity.

This is common in the situation of a research project or when some other adjustment is made due to delay situations. The critical path is the longest path, but in the situations of probabilistic times, **many paths with little slack become critical path** because there time becomes pessimistic and critical path activities are completed in estimated time or in another situation when activities of critical path are completed in optimistic times, but the activity on a non-critical path are completed in estimated times. Generally, this situation arrives when there is a minor difference between time of critical path and other noncritical path.

Let us understand this through an example as depicted by a network in Figure below. Limitations of PERT. The critical path is a-b in normal circumstance but if activity ‘c’ is finished in pessimistic time of 12 days and activities ‘a’ and ‘b’ are completed in estimated time, then path c will become critical



It is assumed that in probabilistic events, it will follow **beta distribution** but it may not follow the beta distribution and then the average time will be in accordance with the **distribution**.

It is assumed that a project will have only one **ending event**, but there are chances of **partial success** which may lead to more than one ending events.