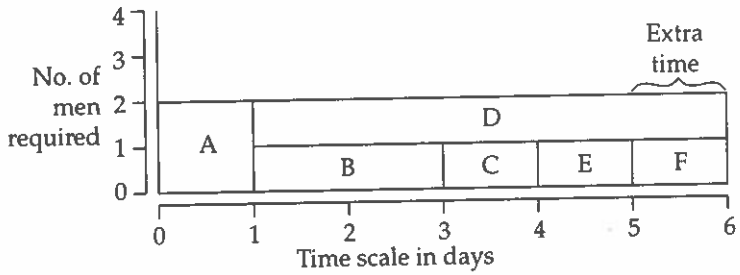
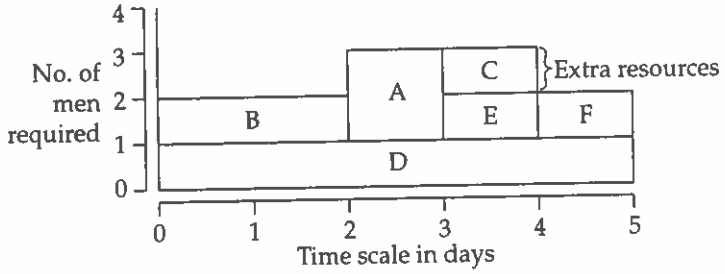
network show that float is available for activities A, C, F, B and E. Having regard to these floats it is necessary to 'smooth out' the resource requirements so that the resources required do not exceed the resource constraint, i.e. delay the commencement of activities (within their float) and if this procedure is still not sufficient then delay the project as a whole. Carrying out this procedure results in the following resource profile.



Resource allocation – with 2 man constraints

Note: This procedure is sometimes termed ***resource levelling.***

d) Because of the resource constraint of 2 men it has been necessary to extend the project duration by 1 day. Assume that management state that the original project duration (5 days) must not be extended and they require this to be achieved with the minimum extra resources. In such cases a similar process of varying activity start times within their float is carried out, resulting in the following resource profile.



Resource allocation profile – with 5 day constraint

e) The above profile shows that to achieve the 5 day duration it is necessary to have 3 men available from day 2 to day 4.

Summary

5. a) To enable resource scheduling to be carried out the resource requirements for each activity must be specified.

   b) In addition the various resources involved (men, machinery etc) must be classified and the availability and constraints specified.

   c) After calculating the critical path in the usual manner a Resource Aggregation Profile(s) is prepared i.e. the amount of the resource(s) required in each time period of the project based on the EST's of each activity.

   d) If the resource aggregation indicates that a constraint is being exceeded, and float is available the resource usage is 'smoothed' i.e. the start of activities is delayed.