

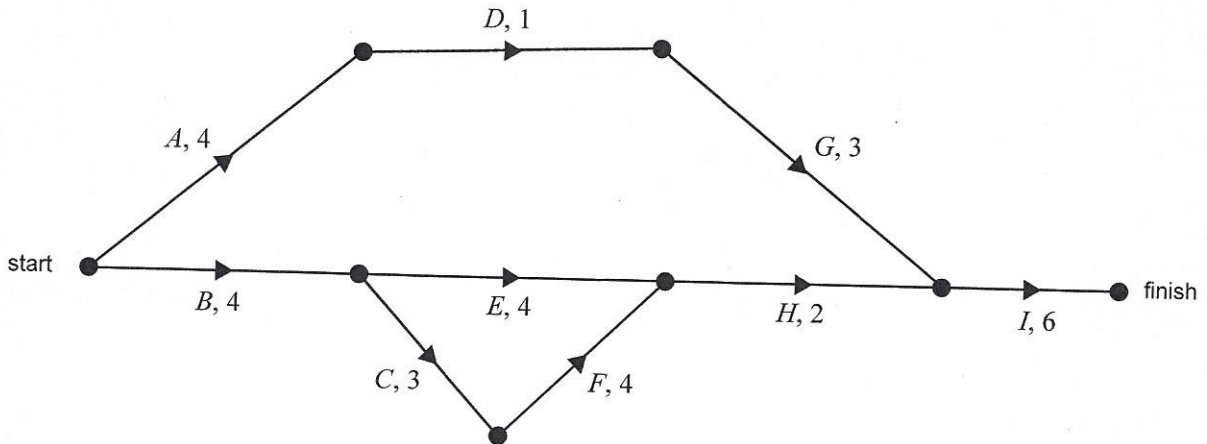
CRASHING EXAMPLE

Question 4

A community centre is to be built on the new housing estate.

Nine activities have been identified for this building project.

The directed network below shows the activities and their completion times in weeks.



- a. Determine the minimum time, in weeks, to complete this project.

1 mark

- b. Determine the slack time, in weeks, for activity *D*.

2 marks

The builders of the community centre are able to speed up the project.

Some of the activities can be reduced in time at an additional cost.

The activities that can be reduced in time are *A*, *C*, *E*, *F* and *G*.

- c. Which of these activities, if reduced in time individually, would **not** result in an earlier completion of the project?

1 mark

The owner of the estate is prepared to pay the additional cost to achieve early completion.

The cost of reducing the time of each activity is \$5000 per week.

The maximum reduction in time for each one of the five activities, *A*, *C*, *E*, *F*, *G*, is 2 weeks.

- d. Determine the minimum time, in weeks, for the project to be completed now that certain activities can be reduced in time.

1 mark

- e. Determine the minimum additional cost of completing the project in this reduced time.

1 mark

Total 15 marks

END OF MODULE 5