5.

Activity	Immediately preceding activities
A	-
B	-
C	-
D	A
E	A
F	B, C, E
G	B, C, E
H	C
I	C
J	D, F, G, H, I
K	D, F, G, H, I
L	I

(a) Draw the activity network described in the precedence table above, using activity on arc and the minimum number of dummies.

(5)

A project is modelled by the activity network drawn in (a). Each activity requires exactly one worker. The project is to be completed in the shortest possible time. The table below gives the time, in hours, to complete three of the activities.

Activity	Duration (in hours)
A	10
E	7
F	8

The length of the critical path AEFK is 33 hours.

(b) Determine the range of possible values for the duration of activity J. You must make your method and working clear.

(2)

(Total for Question 5 is 7 marks)