(a) Draw the network diagram.

(b) Calculate the critical activities, the overall project completion time and the float times for each activity.

(c) Explain clearly (with reasons) the effect upon the overall project completion time if the completion time for activity A increases from 5 weeks to 6 weeks and the time lag between the end of activity A and the start of activity D also increases from 4 weeks to 6 weeks.

(d) Suppose now that, excluding (c) above, the project manager wishes to reduce the completion time calculated at (b) above by one week and all activities in the project can be crashed if necessary at a cost of £200 for each week crashed. The project manager wishes to choose just one activity to crash.

(i) Which activities should not be considered for crashing and why?

(ii) Which activities should be considered for crashing and why?

(iii) Which activity would you recommend be crashed and what would be the effect of your recommendation?

7. The transportation cost involved in shipping one box of a particular product from a factory (A, B or C) to a warehouse (W1, W2 or W3) is shown below:

		To		
		W1	W2	W3
From	A	1	6	8
	B	2	5	7
	C	2	4	9

For example sending one box from Factory A to warehouse W2 costs £6. Last month the pattern adopted for shipping was as shown below:

		To		
		W1	W2	W3
From	A	-	100	-
	B	125	-	170
	C	-	200	-

(question continues on next page)