

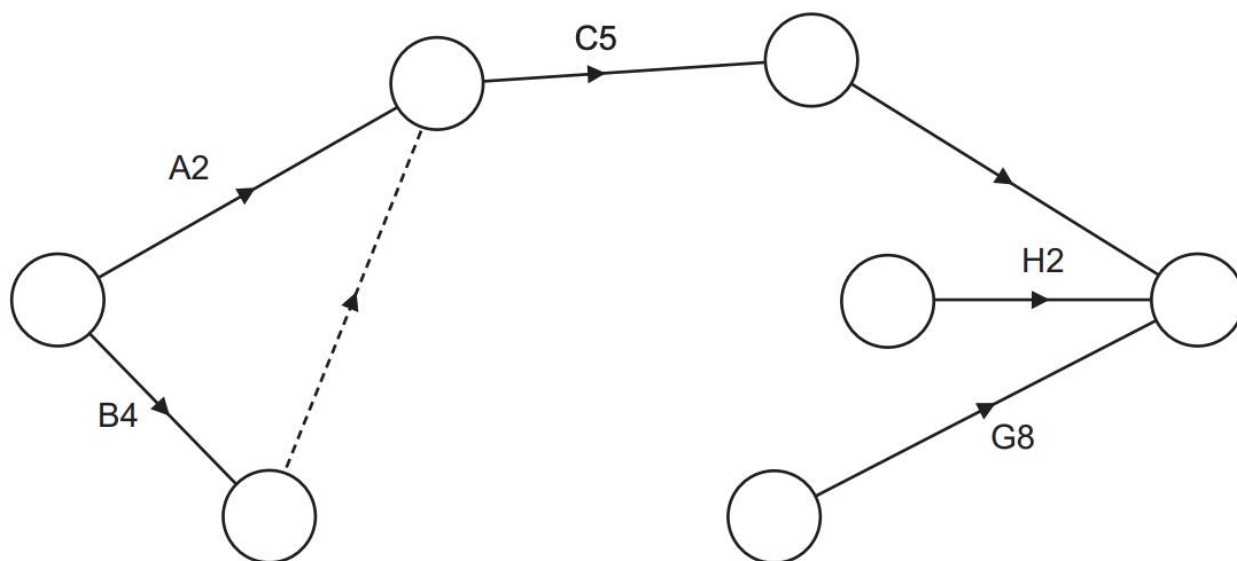
Question 16

(14 marks)

Valeska and her sister Katrin are planning a small building project. The table below shows the required activities, together with the times taken (in days) and the immediate predecessors for each activity.

Activity	A	B	C	D	E	F	G	H
Time (days)	2	4	5	3	6	3	8	2
Immediate predecessors	–	–	A, B	B	C	C	D	D, F

- (a) Complete the project network below, showing all activities and durations. (3 marks)



- (b) Determine all critical activities and the minimum completion time for the project. (3 marks)

(c) Calculate the float times for each of the non-critical activities.

(3 marks)

- (d) If Activity H is delayed by three days, what effect will this have on the minimum completion time and the critical activities? (2 marks)
- (e) Extra resources become available that can be used to shorten the duration of **one** of Activities B, E or F (on the original network) by one day. Which of these activities should be shortened and why? (3 marks)