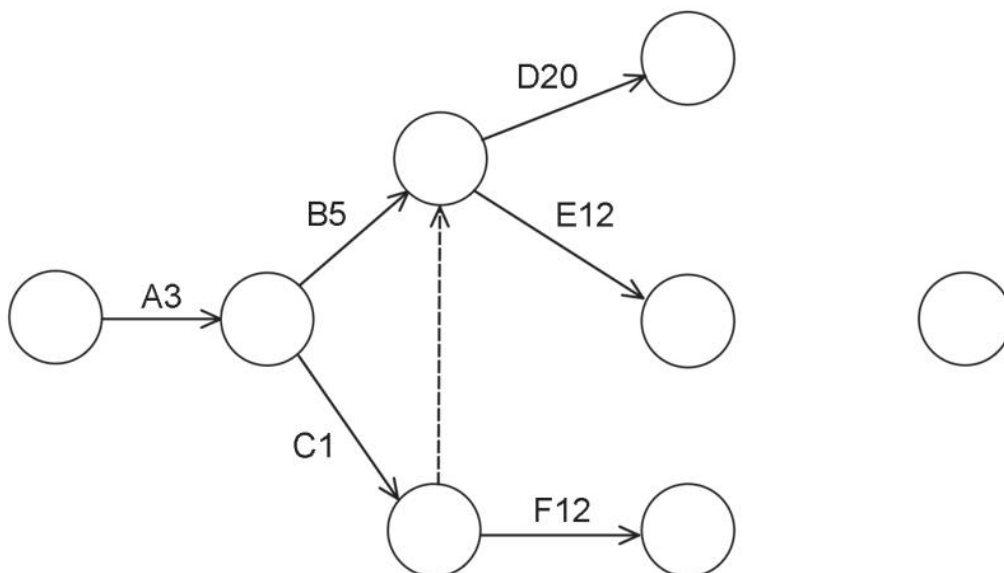**Question 9** (10 marks)

A builder is planning the renovation of a bathroom. The table below shows each task, the immediate predecessors and the duration of the task, for the project.

Task	Immediate predecessor(s)	Duration (days)
A	-	3
B	A	5
C	A	1
D	B, C	20
E	B, C	12
F	C	12
G	D, E	5
J	E	5
K	E, F	6
L	J, K	10
M	G, L	2

(a) Complete the project network diagram for the bathroom renovation. (3 marks)

(b) Determine the critical path and the minimum completion time for the project. (3 marks)

(c)   Determine the float time for each of the following tasks.

    (i)   C   (1 mark)

    (ii)   E   (1 mark)

It is possible that one or more tasks can be delayed without affecting the minimum completion time of the project.

(d)   Identify which task(s) will give the maximum possible time delay without affecting the minimum completion time and state the time delay.   (2 marks)