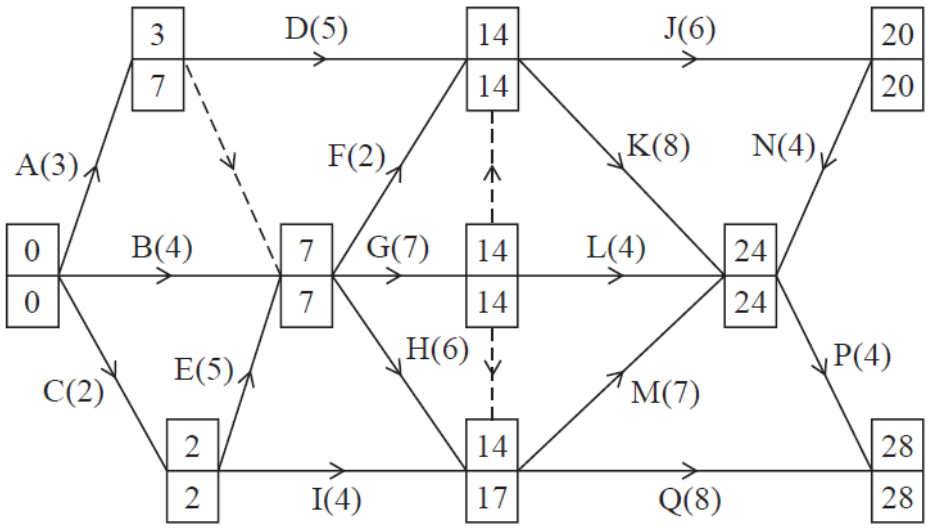
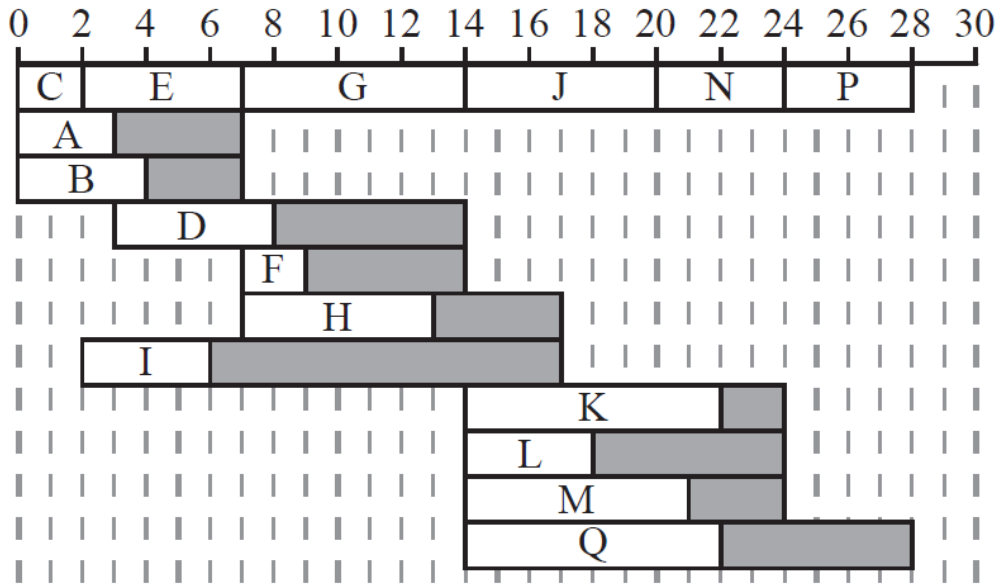
Question Number	Scheme	Marks
2.(a)		M1 A1 M1 A1 **(4)**
(b)	e.g. 	M1 A1 A1 A1 **(4)**
(c)	Lower bound is 4 workers e.g. activities K, M, N and Q together with 20 < time < 21	M1 A1 **(2)**
		10 marks

Question Number	Scheme	Marks

Notes for Question 2

a1M1: All top boxes complete (condone lack of 0 for the M mark only), values generally increasing in the direction of the arrows (so generally going from 'left to right' across the network), condone one 'rogue' value (if values do not increase in the direction of the arrows then if one value is ignored and the remaining values do increase in the direction of the arrows then this is considered to be a single rogue value). Note that all values in the top boxes could be incorrect but it can still score the M mark if the values are **increasing** in the way stated above
a1A1: CAO – **all** values correct in the top boxes
a2M1: All bottom boxes complete (but condone a blank box for the late event time at the end of activities P/Q and/or at the start node for this method mark only). Values generally decreasing in the opposite direction of the arrows (so generally going from 'right to left' across the network), condone one 'rogue' (as described above in **a1M1**)
a2A1: CAO – **all** values correct in the bottom boxes

Note that in (b) it is acceptable for the critical activities (C, E, G, J, N and P) to appear on separate lines or for several activities to appear on the same line as long as their durations and total floats are clear and do not overlap. The floats on the non-critical activities do not need to be shaded but they must be clearly distinguishable from the duration of the activity

b1M1: At least ten different activities labelled including at least six floats. A scheduling diagram (so a diagram in which no floats are evident) scores M0
b1A1: The critical activities dealt with correctly and appearing just once (C, E, G, J, N and P) and three non-critical activities dealt with correctly (both duration and total float correct)
b2A1: Any six non-critical activities correct (this mark is not dependent on the previous A mark)
b3A1: CSO – completely correct Gantt chart (exactly sixteen activities appearing just once)

c1M1: Either a statement with the correct number of workers (4) and stating the correct activities (K, M, N and Q) with any numerical time stated **or** the correct number of workers (4) and a time in the interval $20 \leq x \leq 21$ – mark the numerical value only not their use of the words 'day/time' (or equivalent)
c1A1: A completely correct statement with details of both time **and** activities. Candidates must give a time within the correct interval of $20 < t < 21$, e.g. 20.5 and state the correct activities (K, M, N and Q). Please note the strict inequalities for the time interval (e.g. implying a time of 20 is incorrect). Answers given as an interval of time are acceptable provided the time interval stated is correct for all its possible values (e.g. time 20 – 21 is A0). A completely correct statement with an additional incorrect statement scores A0 (so do not ignore subsequent working)