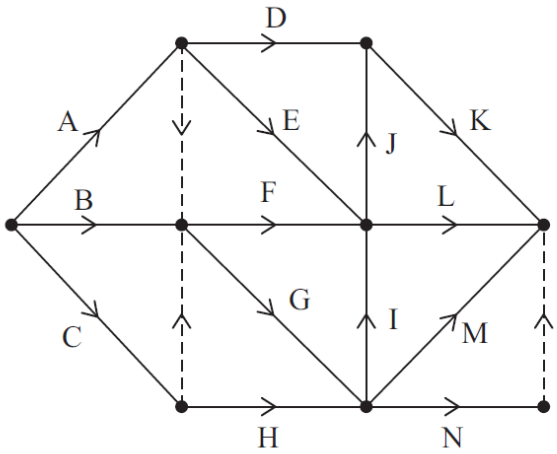
Question Number	Scheme	Marks
1.(a)	e.g. Left to right **18 13 21 17 23 14 20 15 16 19** 13 18 17 21 14 20 15 16 19 23 13 17 18 14 20 15 16 19 21 23 13 17 14 18 15 16 19 20 21 23 13 14 17 15 16 18 19 20 21 23 13 14 15 16 17 18 19 20 21 23 13 14 15 16 17 18 19 20 21 23	M1 A1 A1 **(3)**
	e.g. right to left **18 13 21 17 23 14 20 15 16 19** 13 18 14 21 17 23 15 20 16 19 13 14 18 15 21 17 23 16 20 19 13 14 15 18 16 21 17 23 19 20 13 14 15 16 18 17 21 19 23 20 13 14 15 16 17 18 19 21 20 23 13 14 15 16 17 18 19 20 21 23 13 14 15 16 17 18 19 20 21 23	
(b) (i)	BD, AB, reject AD, AC, BE, reject CD, reject DE, DF (reject EF, reject CF)	M1 A1 A1
(ii)	80 (metres)	B1 **(4)**
		7 marks
	Notes for Question 1	
a1M1	Bubble sort working consistently L to R or R to L first two passes completed with two largest values in place (L to R) or two smallest values in place (R to L) (Note Quick sort is M0) (If sorting into descending order M1 only even if reversed) (condone one error either transcription or order for this mark but must have both largest or smallest in place)	
a1A1	First four passes correct (accept shrinking list)	
a2A1	CSO (must include 6th unchanged pass L to R or 7th unchanged pass R to L or list rewritten after 5th/6th pass – do not accept sort completed without the unchanged pass) (if shrinking list they must write out the final list in full)	
bi1M1	Kruskal not Prim, BD and AB selected and AD rejected (in that order) (Accept a full list of arcs in order followed by a list of the correct five arcs for M1 A1 A0) (Accept correct list of numerical values in place of arcs for M1 only)	
bi1A1	All five arcs selected in the correct order with no additional	

Question Number	Scheme	Marks
bi2A1	CSO – all arcs selected and rejections made in correct order (rejecting EF and CF not required, but if seen they must be in this order)	
biiB1	CAO (Do not ISW if 2 x 80 seen)	

Question Number	Scheme	Marks
2.(a)	 e.g.	M1 A1 (ABCDEH) A1 (FGIJ) A1 (KLMN) A1 **(5)**
(b)	Activities A, B, C, G, H, I, J and K are critical	B2,1 **(2)**
		7 marks