

Q	Solution	Marks	Total	Comments
1 (a)		M1		
		A2	3	-1 EE
	<pre> graph LR     A["A 0   7"] --- C["C 7   10"]     B["B 0   7"] --- D["D 6   10"]     C --- E["E 10   12"]     D --- E     E --- F["F 12   14"]     F --- G["G 14   19"]     G --- H["H 19   20"] </pre>			
(b)	Min = 20	M1 A1	2	M1 earned in (a)
(c)				
		M1 A3F	4	-1 EE
	<b>Total</b>		<b>9</b>	

Q	Solution	Marks	Total	Comments
2 (b)				
		M1 A1 M1 A1	4	Forward pass Back pass
(c)	Critical A, B, C, D, F, G, H, I, J	B1	1	
(d)				
		M1 A3F	4	- 1 EE
(e)	Problem with D E F ∴ overrun = 1 (hour)	M1 A1	2	
	<b>Total</b>		<b>13</b>	

Question Number and part	Solution	Marks	Total Marks	Comments
7				
(a)	Forward pass (as above) Backward pass (as above)	M1 A1 M1 A1 A1	5	
(b)	Critical path AEI Minimum time 20 hours	B1 B1	2	
(c)				
(d)	cascade chart (as above) five workers (e.g. at 9 hours)	M1 A1ft A1ft B1	4	
(d)	e.g. moving F forward 3 hours	M1 A1	2	
(e)	3 workers would give 60 hours in the project time, but total of activity times is 61	M1 A1	2	any sensible explanation
<b>Total</b>			<b>15</b>	