

**ADVANCED GCE**

**MATHEMATICS**

Decision Mathematics 2

INSERT for Questions 1, 2 and 3

**4737**

**Wednesday 21 January 2009**  
**Afternoon**

**Duration:** 1 hour 30 minutes



Candidate Forename						Candidate Surname					
Centre Number						Candidate Number					

**INSTRUCTIONS TO CANDIDATES**

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- This insert should be used to answer Questions **1, 2 and 3**.
- Write your answers to Questions **1, 2 and 3** in the spaces provided in this insert, and attach it to your Answer Booklet.

**INFORMATION FOR CANDIDATES**

- This document consists of **4** pages. Any blank pages are indicated.

1 (i)

Stage	State	Action	Working	Maximin	
1	0	0	10		
	1	0	11		
	2	0	14		
	3	0	15		
2	0	0	(12, ) =		
		2	(10, ) =		
	1	0	(13, ) =		
		1	(10, ) =		
		2	(11, ) =		
	2	1	1	( 9, ) =	
			2	(10, ) =	
			3	( 7, ) =	
	3	1	1	( 8, ) =	
			3	(12, ) =	
	3	0	0	(15, ) =	
			1	(14, ) =	
2			(16, ) =		
3			(13, ) =		

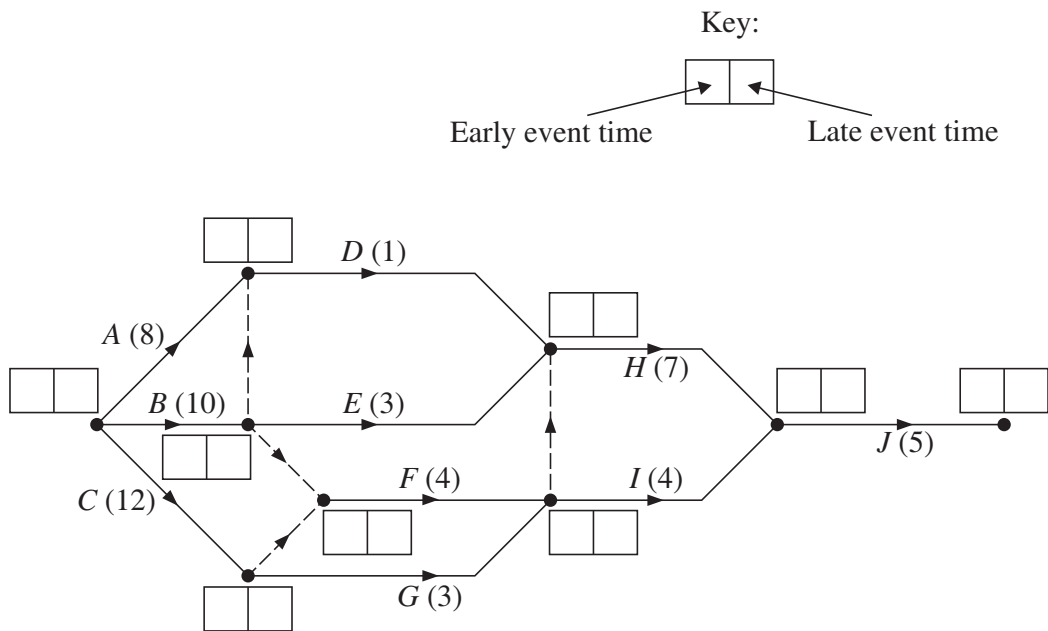
(ii) Maximin value = .....

Maximin route = .....

2 (i)

Activity	Duration (days)	Immediate predecessors
<i>A</i>	8	
<i>B</i>	10	
<i>C</i>	12	
<i>D</i>	1	
<i>E</i>	3	
<i>F</i>	4	
<i>G</i>	3	
<i>H</i>	7	
<i>I</i>	4	
<i>J</i>	5	

(ii)



Critical activities .....

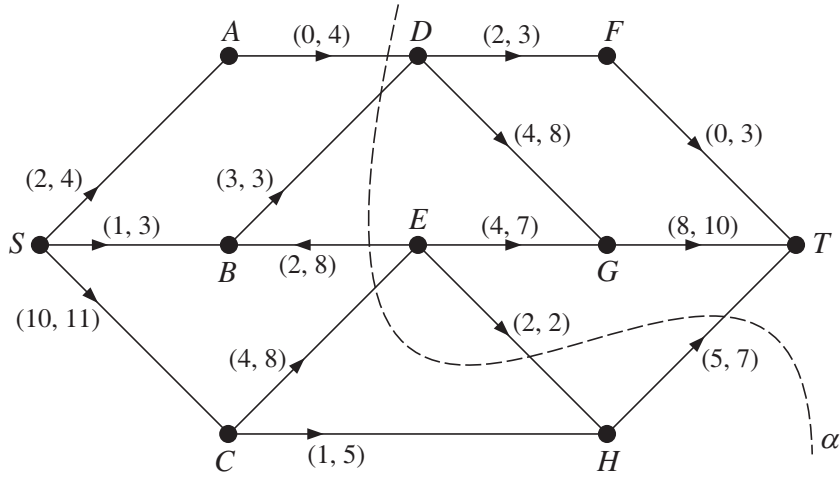
(iii)

Activity	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>	<i>I</i>	<i>J</i>
Number of workers										

(iv) Minimum delay ..... days

Maximum delay ..... days

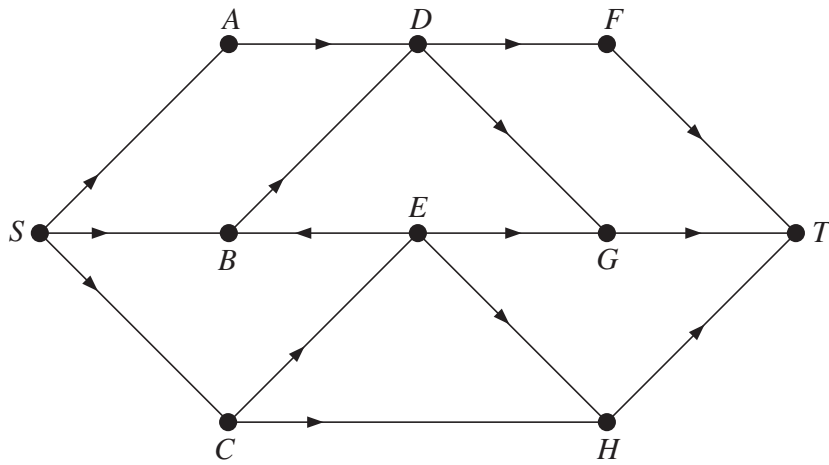
3



(i) Capacity of cut  $\alpha = \dots\dots\dots$  litres per second

(ii)   
 .....  
 .....  
 .....  
 .....

(iii)



Flow augmenting route: .....

Cut: .....

(iv)   
 .....  
 .....