

## ADVANCED GCE MATHEMATICS

4737

Decision Mathematics 2 INSERT for Questions 1, 2 and 3

Wednesday 21 January 2009
Afternoon

**Duration:** 1 hour 30 minutes



Candidate Forename				Candidate Surname			
Centre Numbe	r			Candidate N	umber		

## **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
	0	0	10	
1	1	0	11	
1	2	0	14	
	3	0	15	
	0	0	(12, )=	
	U	2	(10, ) =	
		0	(13, )=	
	1	1	(10, )=	
2		2	(11, )=	
2	2	1	(9, )=	
		2	(10, ) =	
		3	(7, )=	
	3	1	(8, )=	
	3	3	(12, )=	
		0	(15, )=	
3	0	1	(14, )=	
3		2	(16, )=	
		3	(13, )=	

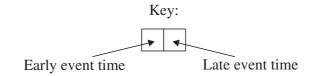
(ii)	Maximin value =
	Maximin route =

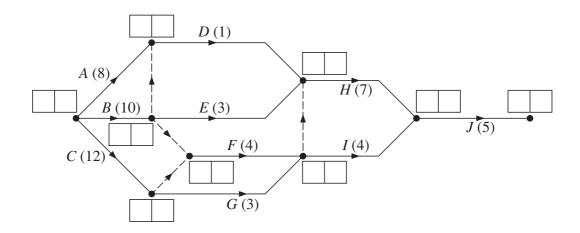
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2 (i)

Activity	Duration (days)	Immediate predecessors
A	8	
В	10	
С	12	
D	1	
E	3	
F	4	
G	3	
Н	7	
I	4	
J	5	

(ii)





Critical activities .....

Activity  $A \ B \ C \ D \ E \ F \ G \ H \ I \ J$ Number of workers

(iv) Minimum delay ..... days

Maximum delay ..... days

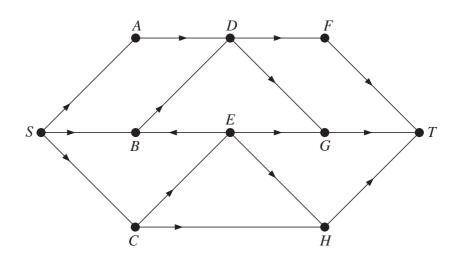
3

/	A (0,4)	D (2, 3) H	7
(2.4)	(3, 3)	(4, 8)	(0, 3)
$S \stackrel{(2,4)}{\longleftarrow} (1,3)$		E (4,7)	(8, 10)
(10, 11)		(2, 2)	
	(4, 8)		(5, 7)

(i)	Capacity of cut $\alpha =$	litrac	nar sacono
(1)	Capacity of cut $\alpha =$	 intres	ner second

(ii)	
` '	

(iii)



- • •	
iv)	
	Cut:
	Flow augmenting route:



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