

OCR

Oxford Cambridge and RSA

Wednesday 25 May 2016 – Morning

A2 GCE MATHEMATICS

4737/01 Decision Mathematics 2

PRINTED ANSWER BOOK

Candidates answer on this Printed Answer Book.

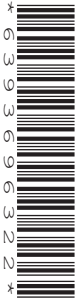
OCR supplied materials:

- Question Paper 4737/01 (inserted)
- List of Formulae (MF1)

Other materials required:

- Scientific or graphical calculator

Duration: 1 hour 30 minutes



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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INSTRUCTIONS TO CANDIDATES

These instructions are the same on the Printed Answer Book and the Question Paper.

- The Question Paper will be found inside the Printed Answer Book.
- Write your name, centre number and candidate number in the spaces provided on the Printed Answer Book. Please write clearly and in capital letters.
- **Write your answer to each question in the space provided in the Printed Answer Book.** If additional space is required, you should use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Do **not** write in the bar codes.
- You are permitted to use a scientific or graphical calculator in this paper.
- Give non-exact numerical answers correct to 3 significant figures unless a different degree of accuracy is specified in the question or is clearly appropriate.

INFORMATION FOR CANDIDATES

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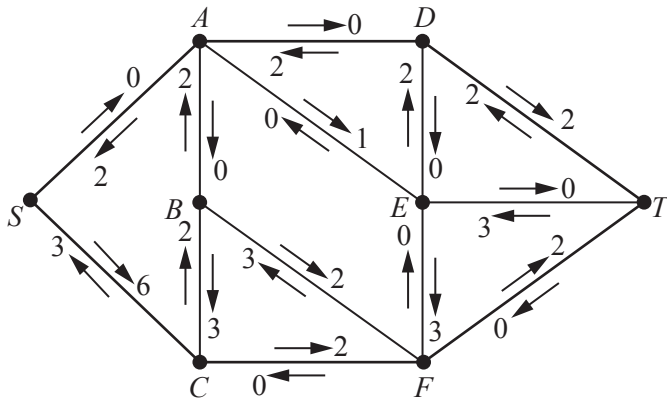
- The number of marks is given in brackets [] at the end of each question or part question on the Question Paper.
- **You are reminded of the need for clear presentation in your answers.**
- The total number of marks for this paper is **72**.
- The Printed Answer Book consists of **12** pages. The Question Paper consists of **8** pages. Any blank pages are indicated.

1 (i)	Sailing ships (1) is matched with
	Seascape (2) is matched with
	Snow scene (3) is matched with
	Street scene (4) is matched with
	Sunset (5) is matched with
	Swans (6) is matched with
1 (ii)	Sailing ships (1) is matched with
	Seascape (2) is matched with
	Snow scene (3) is matched with
	Street scene (4) is matched with
	Sunset (5) is matched with
	Swans (6) is matched with
1 (iii)	
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Seascape (2) is matched with	
Snow scene (3) is matched with	
Street scene (4) is matched with	
Sunset (5) is matched with	
Swans (6) is matched with	

2 (i)

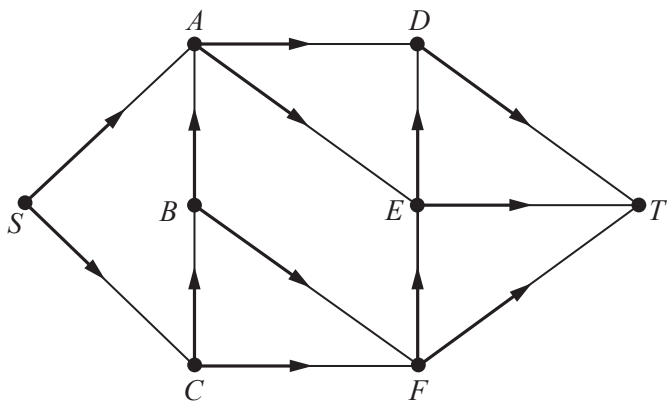
2 (ii)

(a)



(b)

2 (iii)



3 (i)

	Lighting	Sound	Trapeze	
Amir	86	88	90	
Bex	92	94	95	
Caz	88	92	94	
Dee	98	100	98	

	L	S	T	
A				
B				
C				
D				

	L	S	T	
A				
B				
C				
D				

3 (ii)

	L	S	T	
A				
B				
C				
D				

3 (iii)

4 (i)									
4 (ii)	<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Rowan plays</th> <th style="padding: 5px;">Minimum points</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Scissors (✂)</td> <td style="width: 100px;"></td> </tr> <tr> <td style="padding: 5px;">Paper (□)</td> <td></td> </tr> <tr> <td style="padding: 5px;">Rock (●)</td> <td></td> </tr> </tbody> </table>	Rowan plays	Minimum points	Scissors (✂)		Paper (□)		Rock (●)	
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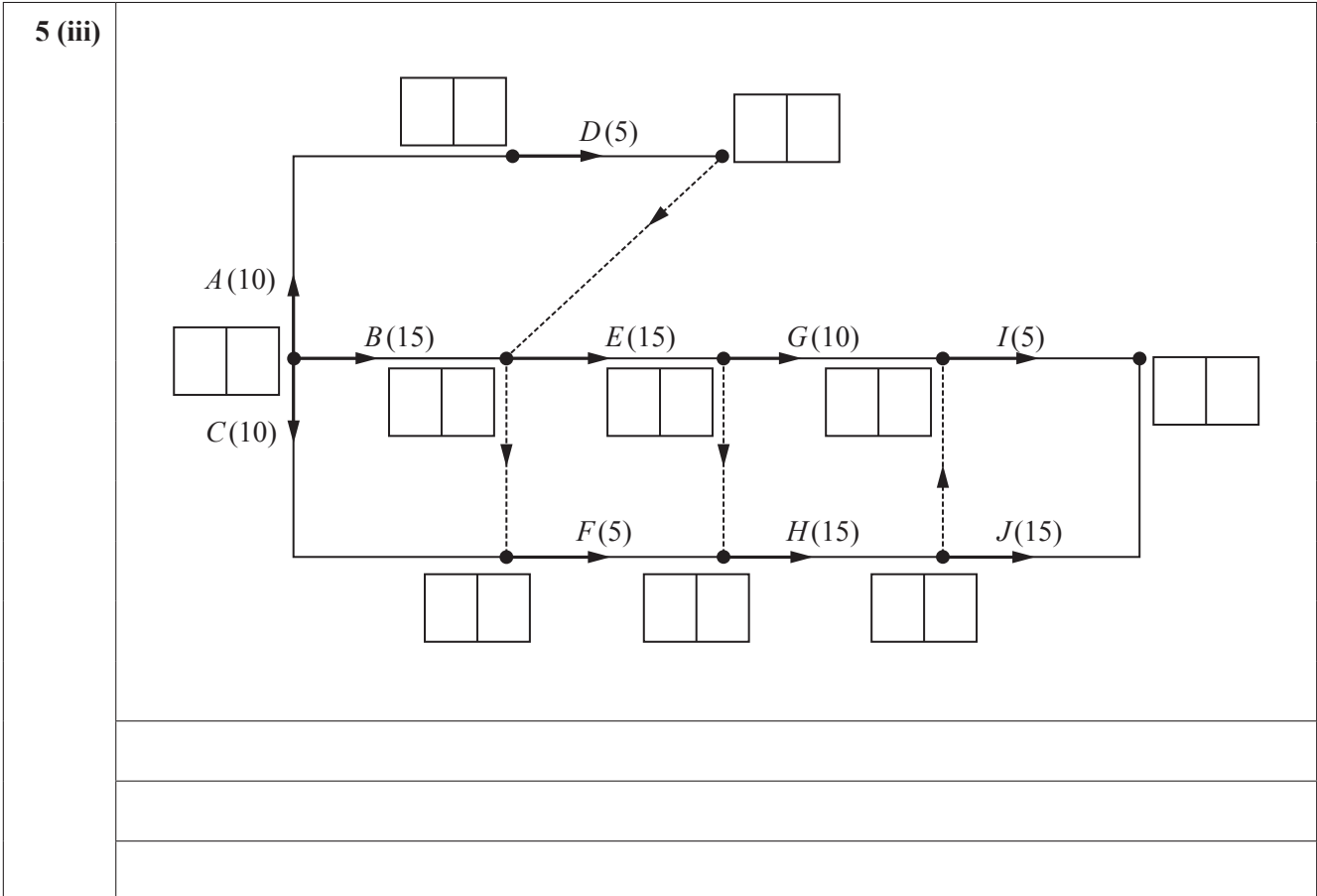
4 (iv)

Rowan plays	Probability
Scissors (✂)	
Paper (□)	
Rock (●)	

5 (i)

5 (ii)

Activity	Immediate predecessor(s)
<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>	



5 (iv)

	0	10	20	30	40	50	60	70
Person 1								
Person 2								
Person 3								

5 (v)

	0	10	20	30	40	50	60	70
Person 1								
Person 2								

5 (vi)

6 (i)

Stage	State	Action	Working	Suboptimal maximum
3	0	0	1	1
	1	0	2	2
2	0	0	$1 + 1 = 2$	3
		1	$1 + 2 = 3$	
	1	0	$3 + 1 = 4$	4
		1	$1 + 2 = 3$	
1	0	0	$1 + =$	
		1	$0 + =$	
	1	0	$0 + =$	
		1	$1 + =$	
0	0	0	$2 + =$	
		1	$2 + =$	

6 (ii)

6 (iii)	
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6 (iv)	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Stage</th> <th>State</th> <th>Action</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td rowspan="2">3</td> <td>0</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>1</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td rowspan="4">2</td> <td rowspan="2">0</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">1</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> <tr> <td rowspan="4">1</td> <td rowspan="2">0</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">1</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">0</td> <td rowspan="2">0</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> </tbody> </table>	Stage	State	Action			3	0	0			1	0			2	0	0			1			1	0			1			1	0	0			1			1	0			1			0	0	0			1		
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