

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
AS GCE**

4736/01

MATHEMATICS

Decision Mathematics 1

PRINTED ANSWER BOOK

FRIDAY 5 JUNE 2015: Morning

**DURATION: 1 hour 30 minutes
plus your additional time allowance**

MODIFIED ENLARGED

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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Candidates answer on the Printed Answer Book.

OCR SUPPLIED MATERIALS:

Question Paper 4736/01

OTHER MATERIALS REQUIRED:

Scientific or graphical calculator

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

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

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.

Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).

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.

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

This information is the same on the Printed Answer Book and the Question Paper.

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.

Any blank pages are indicated.

1 (i)	15	7	9	26	10	4
	List at end of first pass:					
	Comparisons = Swaps =					

1 (ii)	7	9	4	10	15	26
	List at end of fourth pass:					
	Comparisons =			Swaps =		

1 (iii)	

DO NOT WRITE IN THIS SPACE

1 (iv)	15	7	9	26	10	4
	List at end of first pass:					
	Comparisons =			Swaps =		

DO NOT WRITE IN THIS SPACE

1 (v)	7	9	15	26	10	4
	List at end of fourth pass:					
	Comparisons = Swaps =					
	1 (vi)					
Comparisons = Swaps =						

1 (vii)	

DO NOT WRITE IN THIS SPACE

2 (i)	

DO NOT WRITE IN THIS SPACE

2 (ii)	$BD = 5$					
	$FG = 5$					
	$DE = 6$					
	$DF = 7$					
	$EH = 7$			$\overset{\cdot}{A}$	$\overset{\cdot}{B}$	
	$BC = 8$					
	$DG = 8$	$H\cdot$				$\cdot C$
	$GH = 8$					
	$AD = 9$					
	$CD = 9$	$G\cdot$				$\cdot D$
	$EG = 9$					
	$AB = 10$			$\overset{\cdot}{F}$	$\overset{\cdot}{E}$	
	$AE = 10$					
	$CF = 10$					

2 (iii)	

DO NOT WRITE IN THIS SPACE

2 (iv)

</

3 (i)	
3 (ii)	

3 (iii)	

DO NOT WRITE IN THIS SPACE

3 (iv)	

3 (iv)	continued

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4 (i)	
4 (ii)	

DO NOT WRITE IN THIS SPACE

4 (iii)

Initial tableau

<i>P</i>	<i>x</i>	<i>y</i>	<i>z</i>	<i>s</i>	<i>t</i>	<i>u</i>	<i>v</i>	RHS		
									row 1	
									row 2	
									row 3	
									row 4	
									row 5	

space for working

(answer space continues on next page)

4 (iii)	(continued)

After one iteration

<i>P</i>	<i>x</i>	<i>y</i>	<i>z</i>	<i>s</i>	<i>t</i>	<i>u</i>	<i>v</i>	RHS		
									row 1'	
									row 2'	
									row 3'	
									row 4'	
									row 5'	

4 (iv)	

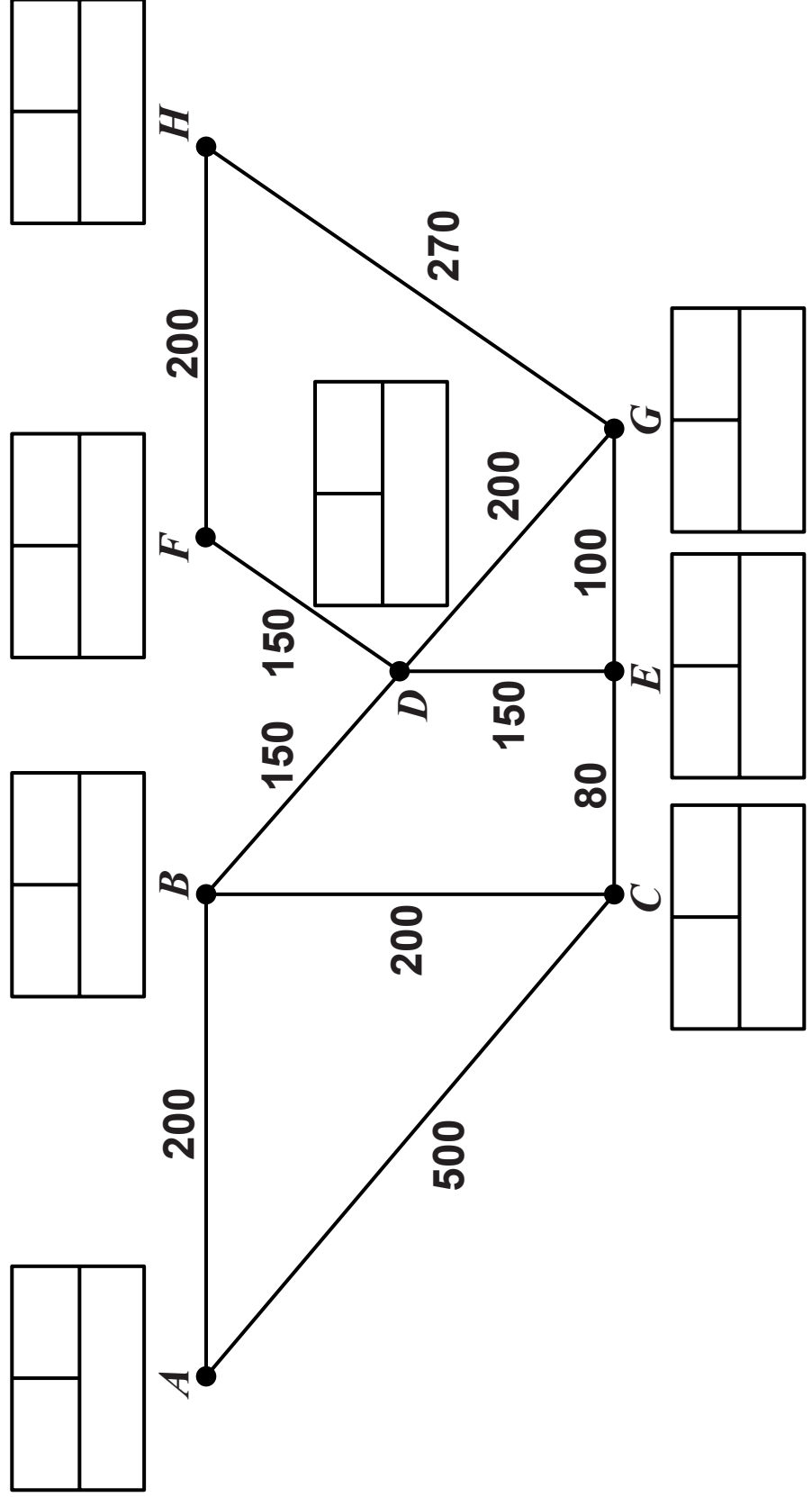
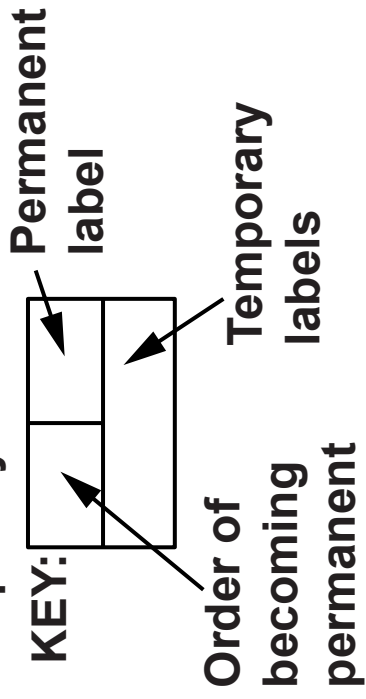
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DO NOT WRITE IN THIS SPACE

5 (i)

Do not cross out your temporary labels



5 (i)	continued
5 (ii)	

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5 (iii)	
5 (iv)	

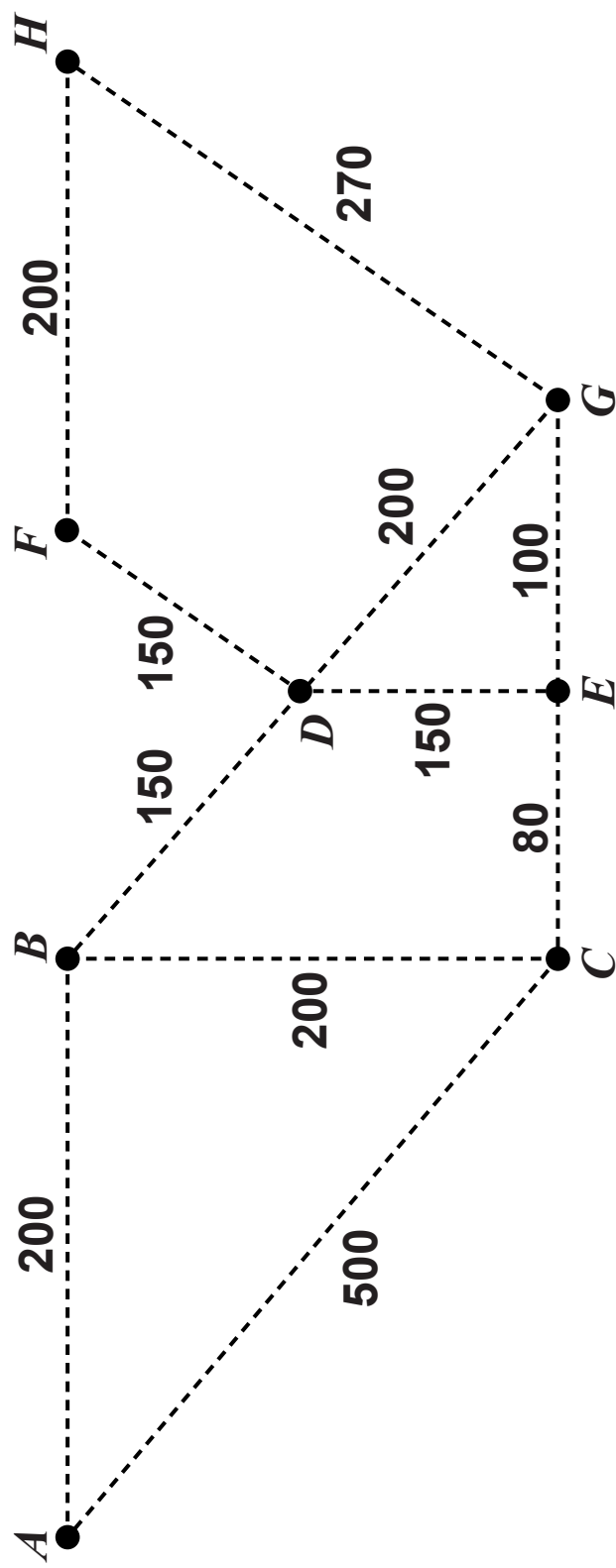
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5 (v)	

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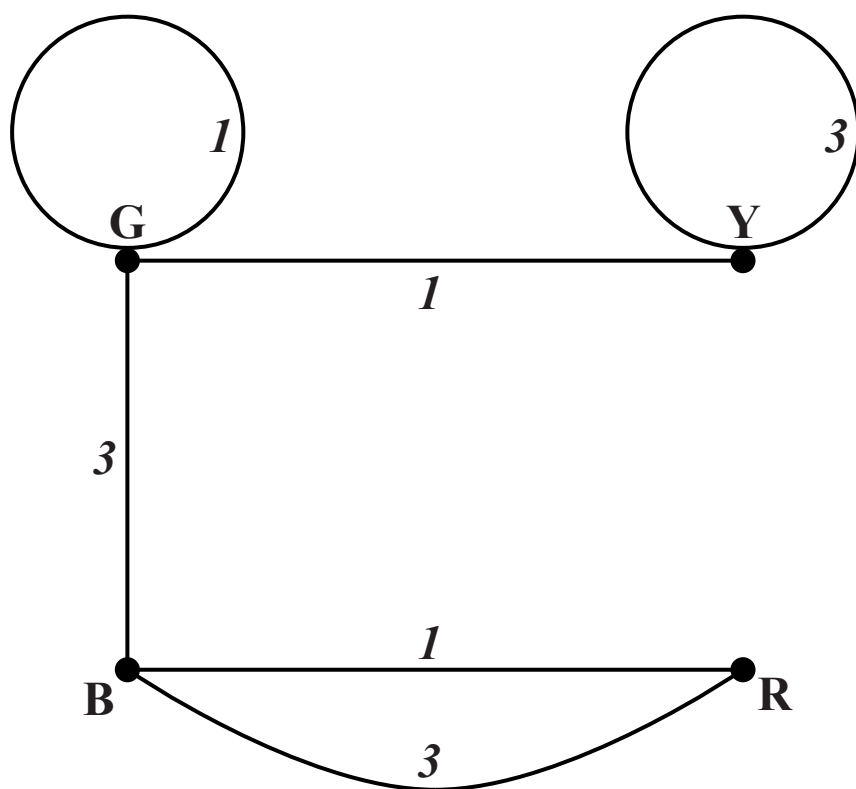
5 (v) continued



6 (i)	<p style="text-align: center;">Cube 2</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> G • </div> <div style="text-align: center;"> Y • </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="text-align: center;"> • B </div> <div style="text-align: center;"> • R </div> </div>
6 (ii)	
6 (iii)	<p style="text-align: center;">Cube 4</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> G • </div> <div style="text-align: center;"> Y • </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="text-align: center;"> • B </div> <div style="text-align: center;"> • R </div> </div>

DO NOT WRITE IN THIS SPACE

6 (iv)



DO NOT WRITE IN THIS SPACE

6 (v)	
6 (vi)	<div style="text-align: center; margin-top: 100px;"> <p style="margin: 0;"> $\begin{array}{ccccc} & G & & Y & \\ & \bullet & & \bullet & \\ & & & & \\ & \bullet & \text{---} & \bullet & \\ B & 1 & & R & \end{array}$ </p> </div>

DO NOT WRITE IN THIS SPACE

6 (vii)	Front of tower	Back of tower	Front of tower	Back of tower
	B		B	
	R		R	
	Y		Y	
	G		G	

DO NOT WRITE IN THIS SPACE

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