



Oxford Cambridge and RSA

Tuesday 3 June 2025 – Afternoon

A Level Further Mathematics B (MEI)

Y433/01 Modelling with Algorithms

Printed Answer Booklet

Time allowed: 1 hour 15 minutes



You must have:

- Question Paper Y433/01 (inside this document)
- the Formulae Booklet for Further Mathematics B (MEI)
- a scientific or graphical calculator



Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

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Candidate number

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First name(s)

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Last name

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INSTRUCTIONS

- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided in the **Printed Answer Booklet**. If you need extra space use the lined page at the end of the Printed Answer Booklet. The question numbers must be clearly shown.
- Answer **all** the questions.
- Where appropriate, your answer should be supported with working. Marks might be given for using a correct method, even if your answer is wrong.
- Give your final answers to a degree of accuracy that is appropriate to the context.

INFORMATION

- This document has **12** pages.

ADVICE

- Read each question carefully before you start your answer.

1(a)	
1(b)(i)	
1(b)(ii)	

2(a)

A	B	C	D	E
5	6	150		

Final output: _____

2(b)

3(a) and 3(b)(i)	
3(b)(ii)	
3(b)(iii)	

3(c)

[illegible][illegible]

3(d)

[illegible]

4(a)								
4(b)								
	P	x	y	z	s_1	s_2	s_3	RHS

DO NOT WRITE IN THIS SPACE

4(c)

P	x	y	z	s_1	s_2	s_3	RHS

P	x	y	z	s_1	s_2	s_3	RHS

$$k_1 = \underline{\hspace{2cm}}$$

$$P = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}} \quad y = \underline{\hspace{2cm}} \quad z = \underline{\hspace{2cm}}$$

5(a)

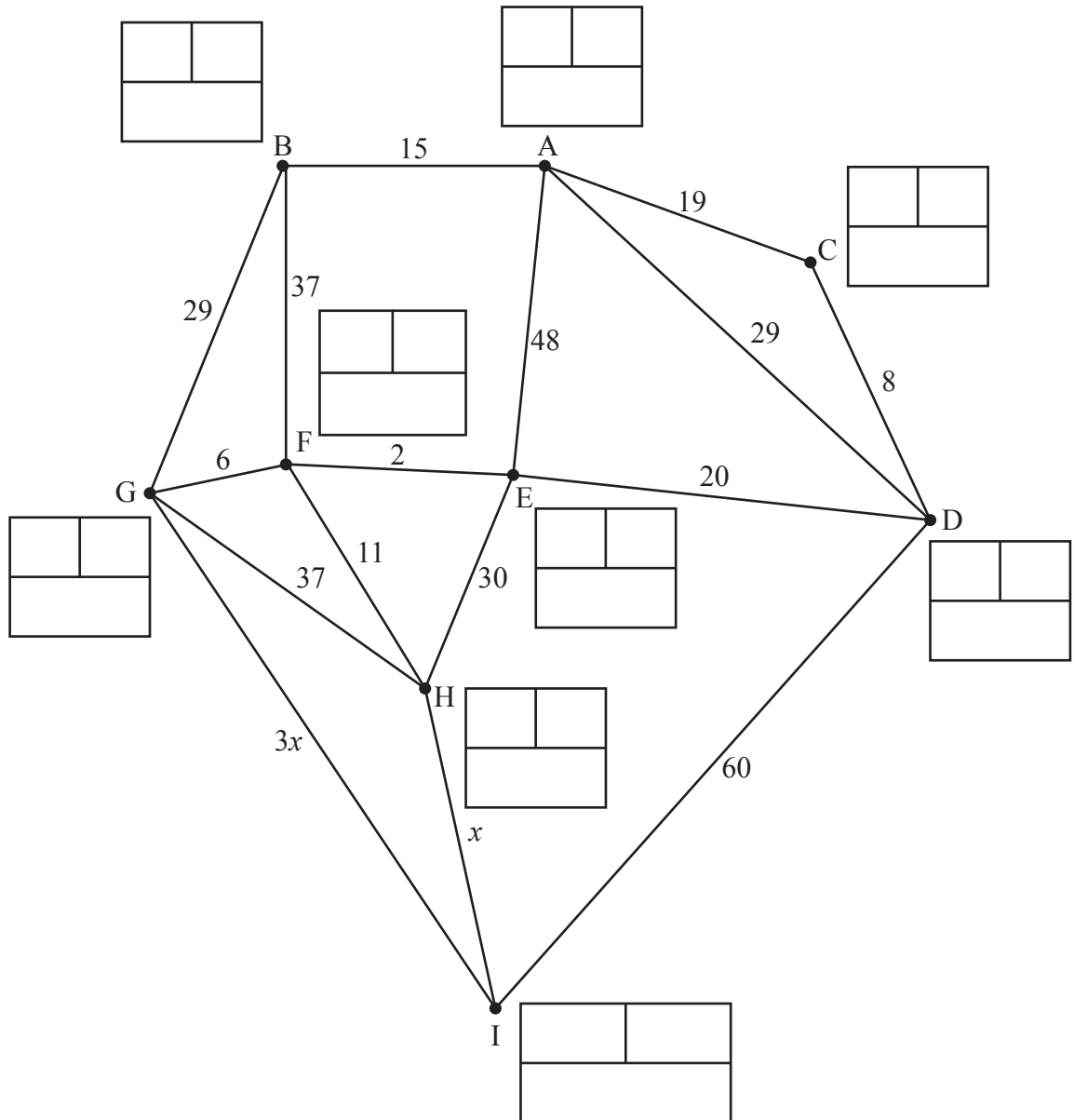
Key:

order of labelling →

 ← label

working values (do not cross out) →

--	--



First shortest path from A to I: _____ Length: _____

Second shortest path from A to I: _____ Length: _____

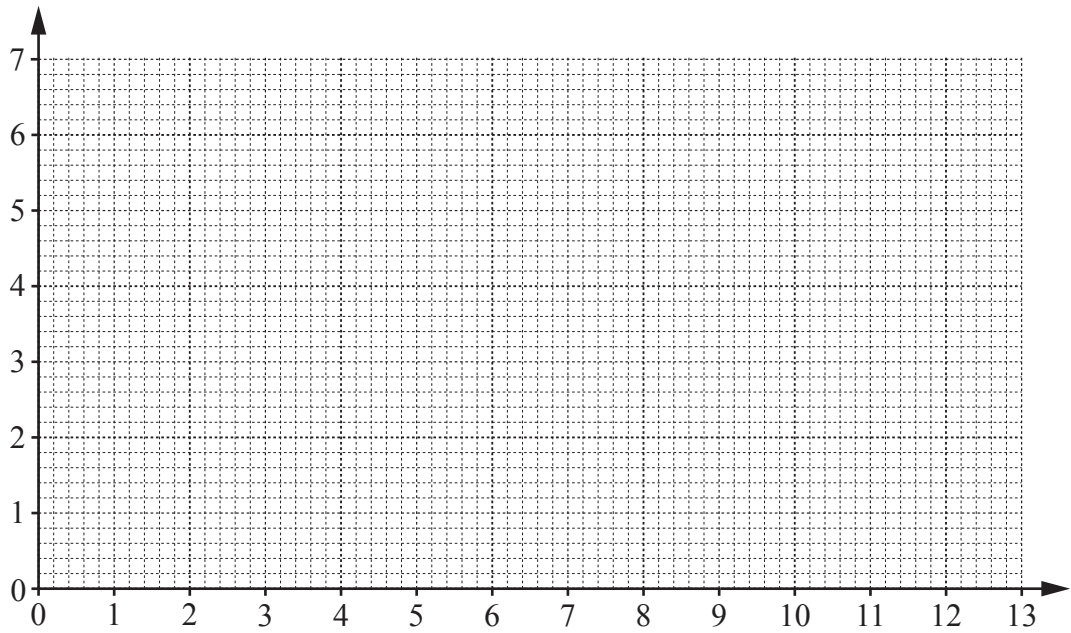
Third shortest path from A to I: _____ Length: _____

5(b)(i)	
5(b)(ii)	
5(c)	

6(a)																																		
6(b)																																		
	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 8.33%;">Q</td> <td style="width: 8.33%;">P</td> <td style="width: 8.33%;">x</td> <td style="width: 8.33%;">y</td> <td style="width: 8.33%;">z</td> <td style="width: 8.33%;">s_1</td> <td style="width: 8.33%;">s_2</td> <td style="width: 8.33%;">s_3</td> <td style="width: 8.33%;">s_4</td> <td style="width: 8.33%;">a_1</td> <td style="width: 8.33%;">a_2</td> <td style="width: 8.33%;">RHS</td> </tr> <tr> <td style="height: 20px;"></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>											Q	P	x	y	z	s_1	s_2	s_3	s_4	a_1	a_2	RHS											
Q	P	x	y	z	s_1	s_2	s_3	s_4	a_1	a_2	RHS																							
6(c)																																		
6(d)																																		

(answer space continued on next page)

6(d) (continued)

Maximum value of $P =$ _____ $x =$ _____ $y =$ _____ $z =$ _____

[illegible]

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