

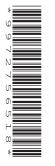
Monday 5 June 2023 – Afternoon

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				Candidate number			
First name(s)							
Last name							

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 pages at the end of the Printed Answer Booklet. The guestion 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.

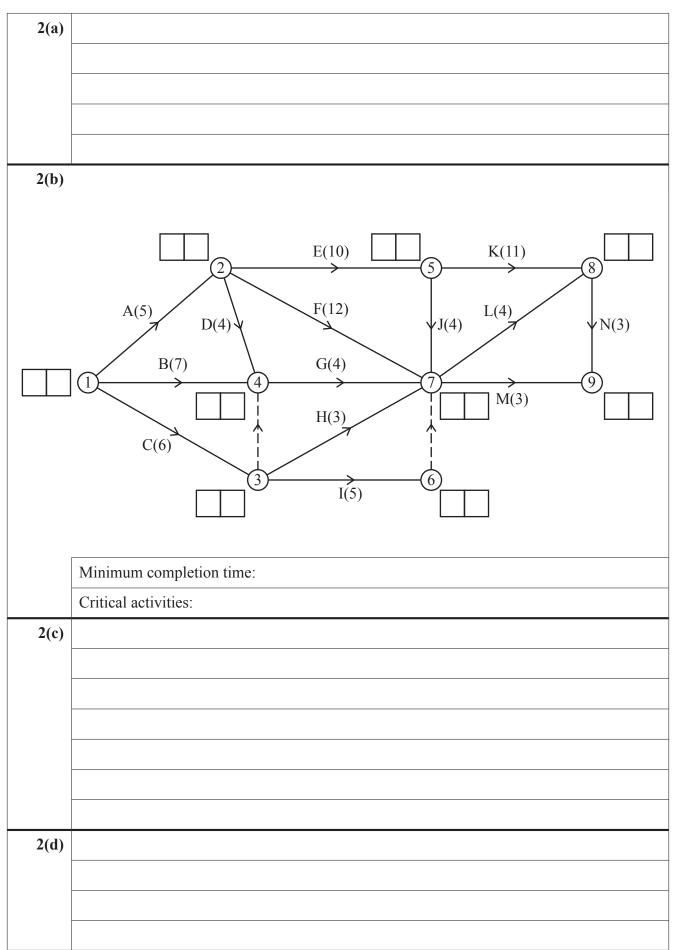
INFORMATION

• This document has **16** pages.

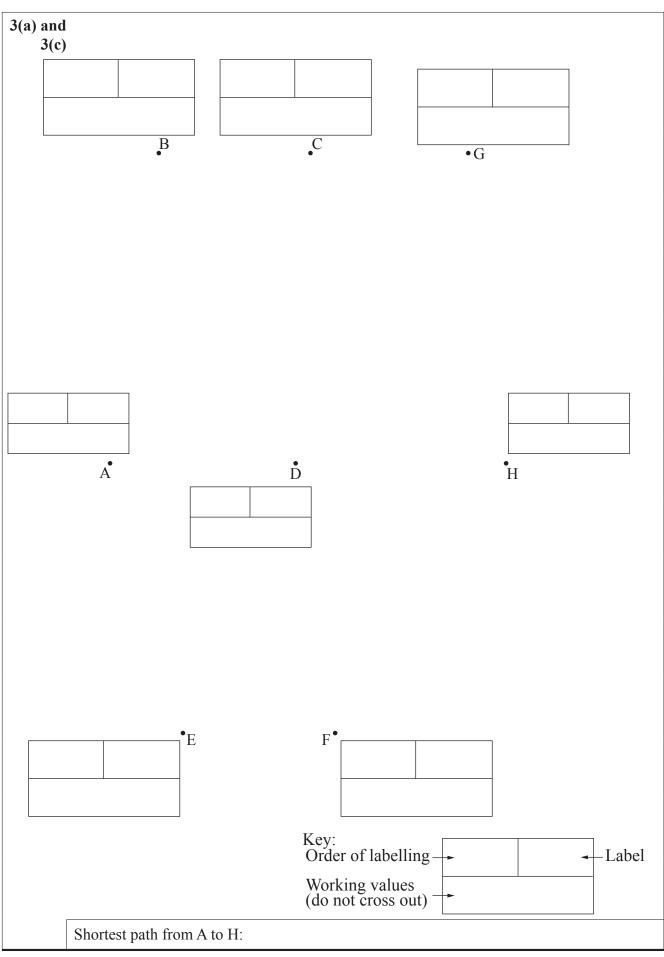
ADVICE

· Read each question carefully before you start your answer.

1(a)										
1(b)	17	23	18	14	26	21	24	15	31	27
1(c)										



3



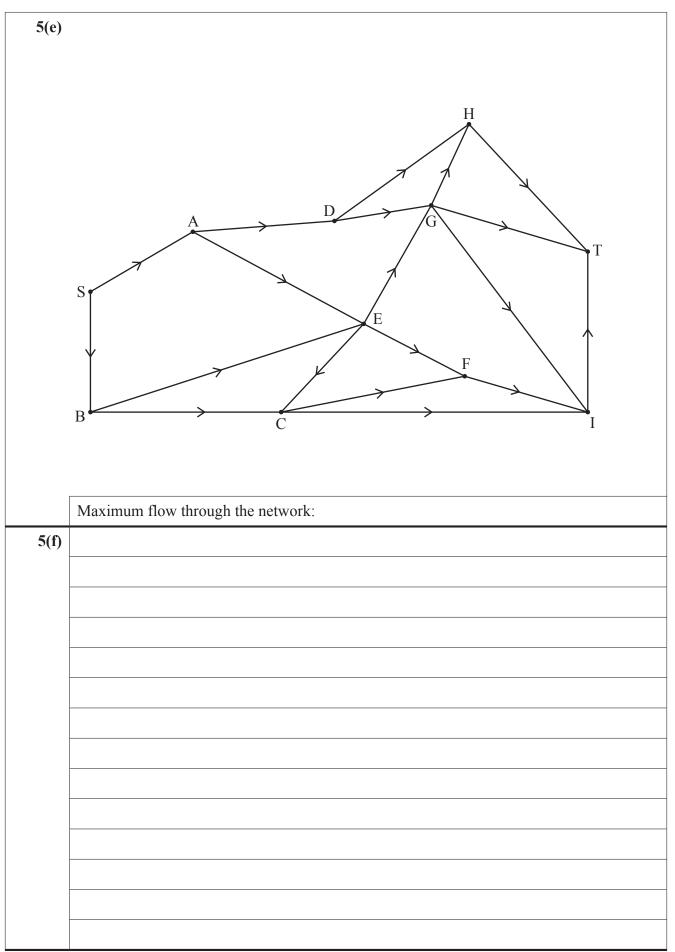
4

3(b)	

4	
	(answer space continued on the next page)

4	(continued)

5(a)	
5(b)(i)	
5(b)(ii)	
5(0)(1)	
5(c)	
5(d)	



6(a)	
6(b)	
6(c)	

			11			
x	У	Ζ	s ₁	s ₂	s ₃	RHS
0	$-\frac{21}{8}$	0	0	$-\frac{1}{8}$	$\frac{13}{8}$	$\frac{665}{8}$
0	$\frac{15}{8}$	0	1	$\frac{3}{8}$	$\frac{1}{8}$	$b + \frac{205}{8}$
0	$-\frac{3}{8}$	1	0	$\frac{1}{8}$	$\frac{3}{8}$	$\frac{215}{8}$
1	$-\frac{1}{4}$	0	0	$-\frac{1}{4}$	$\frac{1}{4}$	$\frac{5}{4}$
x	У	Z	s ₁	<i>s</i> ₂	s ₃	RHS
	0 0 0 1	$\begin{array}{c c} 0 & -\frac{21}{8} \\ 0 & \frac{15}{8} \\ 0 & -\frac{3}{8} \\ 1 & -\frac{1}{4} \end{array}$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	x y z s1 0 $-\frac{21}{8}$ 0 0 0 $\frac{15}{8}$ 0 1 0 $-\frac{3}{8}$ 1 0 1 $-\frac{1}{4}$ 0 0	x y z s1 s2 0 $-\frac{21}{8}$ 0 0 $-\frac{1}{8}$ 0 $\frac{15}{8}$ 0 1 $\frac{3}{8}$ 0 $-\frac{3}{8}$ 1 0 $\frac{1}{8}$ 1 $-\frac{1}{4}$ 0 0 $-\frac{1}{4}$	x y z s1 s2 s3 0 $-\frac{21}{8}$ 0 0 $-\frac{1}{8}$ $\frac{13}{8}$ 0 $\frac{15}{8}$ 0 1 $\frac{3}{8}$ $\frac{1}{8}$ 0 $-\frac{3}{8}$ 1 0 $\frac{1}{8}$ $\frac{3}{8}$ 1 $-\frac{1}{4}$ 0 0 $-\frac{1}{4}$ $\frac{1}{4}$

6(e)									
6(f)									
_									
_									
Q	Р	x	У	Z	s ₁	<i>s</i> ₂	<i>s</i> ₃	<i>a</i> ₁	RHS

ADDITIONALANSWER STACE	ADDITIONAL .	ANSWER	SPACE
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If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).



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