

# Friday 26 May 2023 – Afternoon

# **AS Level Further Mathematics B (MEI)**

Y413/01 Modelling with Algorithms

**Printed Answer Booklet** 

Time allowed: 1 hour 15 minutes

#### You must have:

- Question Paper Y413/01 (inside this document)
- the Formulae Booklet for Further Mathematics B (MEI)
- · a scientific or graphical calculator



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Centre number						Candidate number			
First name(s)									
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 pages 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 16 pages.

#### **ADVICE**

· Read each question carefully before you start your answer.



1(a)	A $12$ $10$ $10$ $10$ $10$ $10$ $10$ $10$ $10$
1(b)	
1(c)	
1(d)	

2(a) 2(b)(i)	. B	Key: Order of labelling Working values (do not cross out)  • E
	Length of quickest route from A to H =	G
	Length of quiekest foute from 74 to 11 –	
2(b)(ii)		
2(c)		

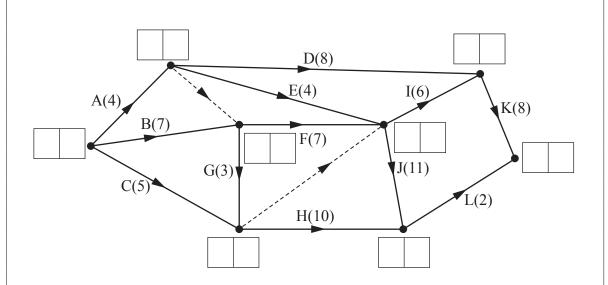
3(a)	17	15	18	9	23	20	14	12	25	11
3(b)(i)										
3(b)(1)										
3(b)(ii)										

3(c)	
3(d)(i)	
3(d)(ii)	

**4(a)** 

Activity	Immediate Predecessor(s)
A	
В	
С	
D	
Е	
F	
G	
Н	
I	
J	
K	
L	

4(b)



Minimum	comp	letion	time	=
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Critical activities:

**4(c)** 

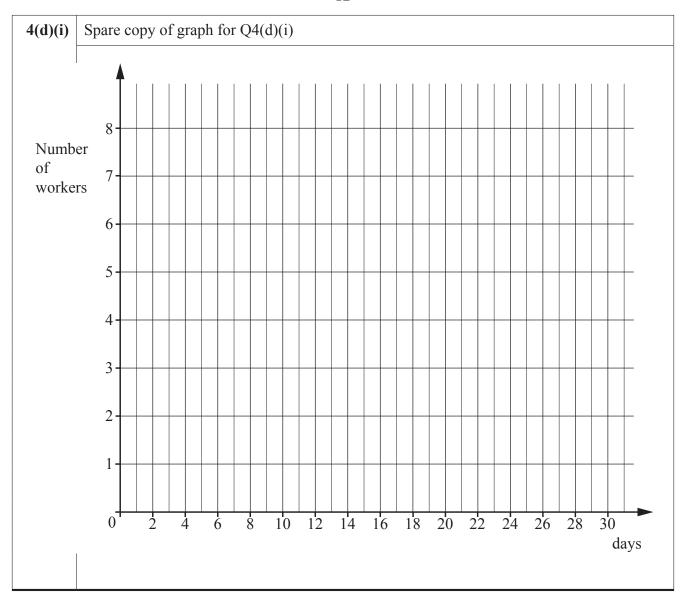
4(d)(i)																							
		<b>A</b>																					
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4(d)(ii)			<u> </u>		•			_															

<b>5(a)</b>	
<b>5(b)</b>	
5(c)	
<b>5(d)</b>	
	Continued on next page

5(e)	

6(a)								
	P	x	У	$s_1$	$s_2$	$s_3$	$s_4$	RHS
6(b)								
						C	ntinued o	n next page
							munucu U	n near page

	P	X	у	<i>s</i> <sub>1</sub>	$s_2$	<i>s</i> <sub>3</sub>	<i>s</i> <sub>4</sub>	RH
	-		y	~1	~2		~4	I
0		C4 11						
Spa	are copy o	or tableau						
	P	x	y	<i>s</i> <sub>1</sub>	$s_2$	<i>s</i> <sub>3</sub>	$s_4$	RH
	-		<i>y</i>	~1	~2	~3	~4	101
( )			l				l	
(c)								



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## ADDITIONAL ANSWER SPACE

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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