OCR
Oxford Cambridge and RSA

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

AB

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 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.

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DC (PQ/SW) 329534/1

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1(a)

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

1(c)

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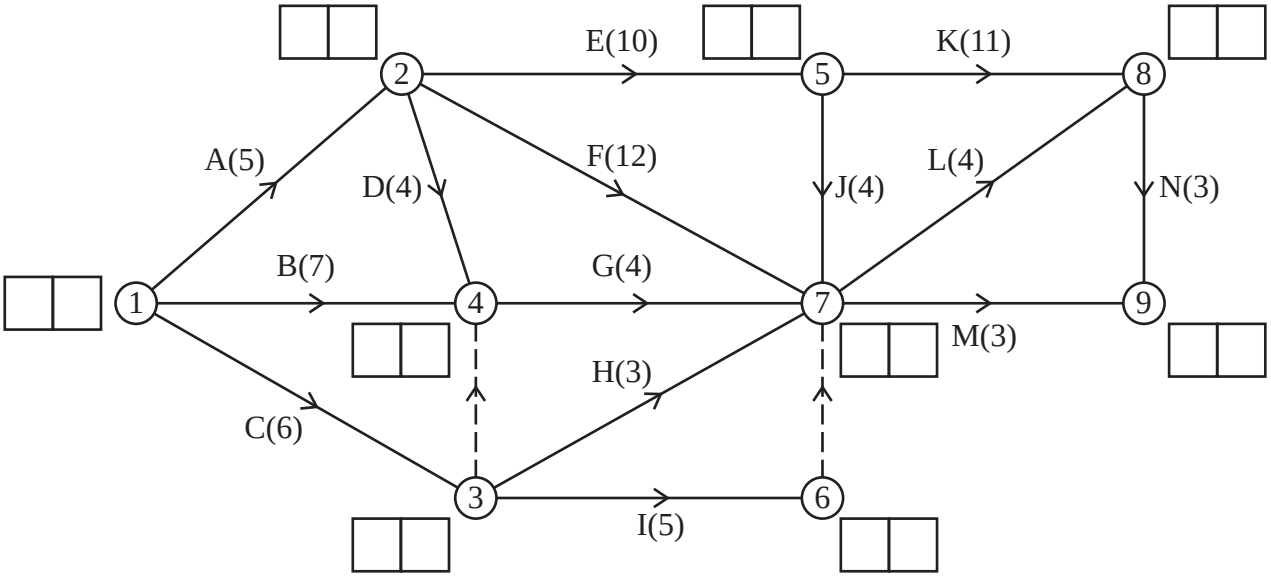
2(a)

2(b)



Minimum completion time:

Critical activities:

2(c)

2(d)

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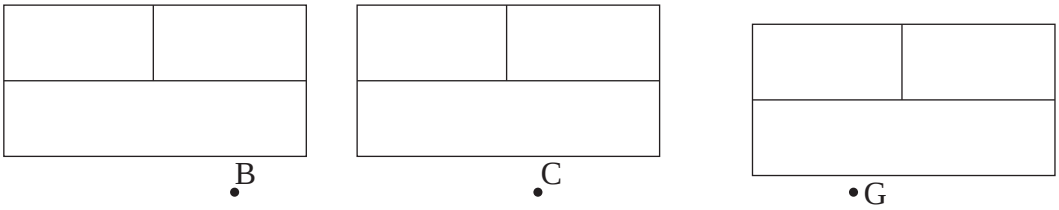
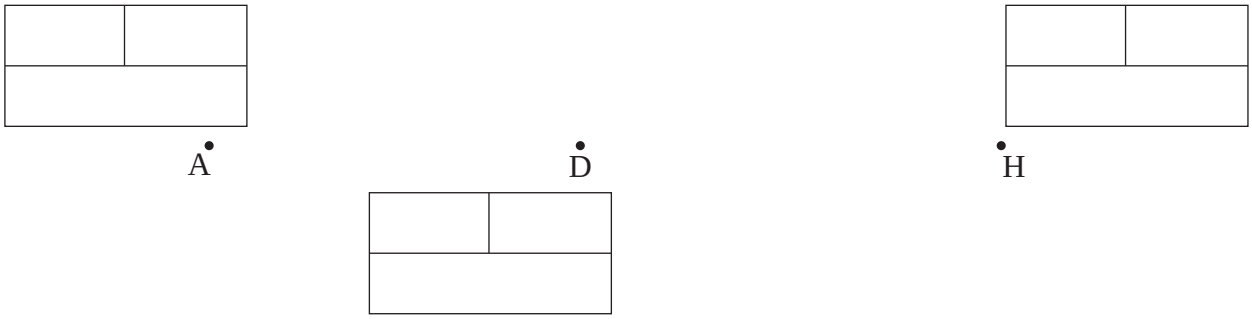
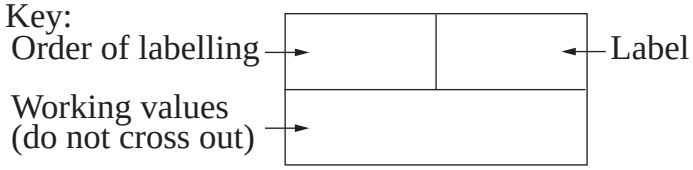
3(a) and 3(c)







Shortest path from A to H:

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3(b)

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4

(answer space continued on the next page)

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4 **(continued)**

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

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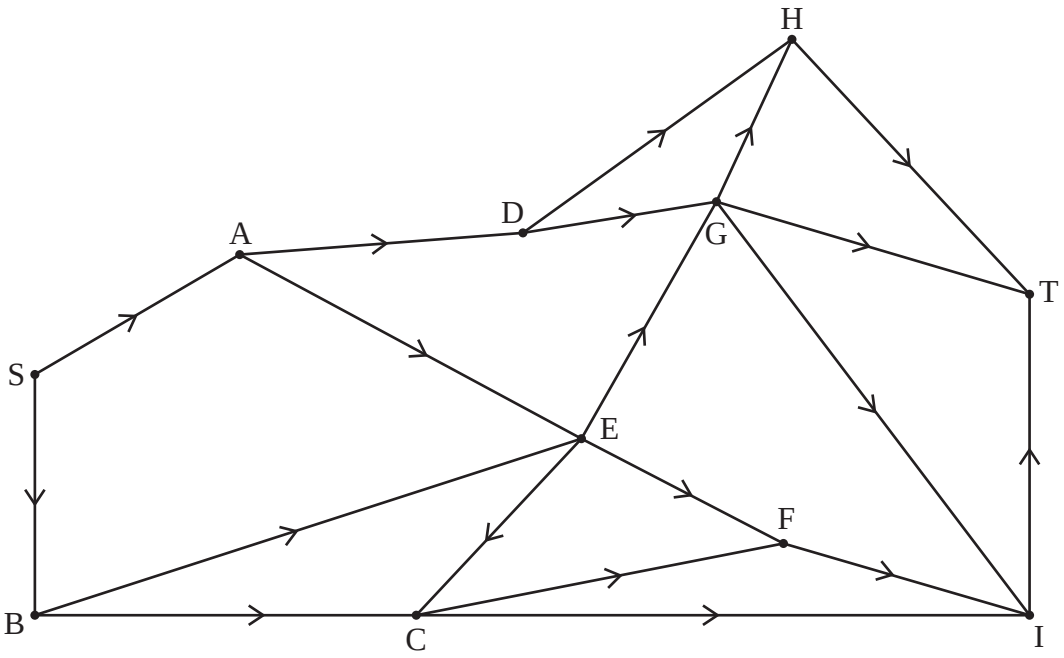
5(e)



Maximum flow through the network:

5(f)

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6(a)

6(b)

6(c)

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6(d)

P	x	y	z	s_1	s_2	s_3	RHS
1	0	$-\frac{21}{8}$	0	0	$-\frac{1}{8}$	$\frac{13}{8}$	$\frac{665}{8}$
0	0	$\frac{15}{8}$	0	1	$\frac{3}{8}$	$\frac{1}{8}$	$b+\frac{205}{8}$
0	0	$-\frac{3}{8}$	1	0	$\frac{1}{8}$	$\frac{3}{8}$	$\frac{215}{8}$
0	1	$-\frac{1}{4}$	0	0	$-\frac{1}{4}$	$\frac{1}{4}$	$\frac{5}{4}$

P	x	y	z	s_1	s_2	s_3	RHS

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6(e)

6(f)

Q	P	x	y	z	s_1	s_2	s_3	a_1	RHS

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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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