



Oxford Cambridge and RSA

Tuesday 20 October 2020 – 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)

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**. You can use extra paper if you need to, but you must clearly show your candidate number, the centre number and the question numbers.
- 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)	

1(c)	

2(a)

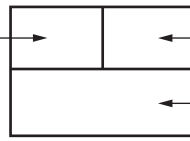
	A	B	C	D	E	F	G	H	I	J
A	–	9	–	10	13	2	17	6	–	–
B	9	–	14	–	–	–	10	7	2	10
C	–	14	–	8	18	7	–	6	–	5
D	10	–	8	–	–	16	–	11	–	15
E	13	–	18	–	–	–	7	–	–	8
F	2	–	7	16	–	–	13	10	9	–
G	17	10	–	–	7	13	–	13	11	–
H	6	7	6	11	–	10	13	–	–	9
I	–	2	–	–	–	9	11	–	–	–
J	–	10	5	15	8	–	–	9	–	–

2(b)

2(d)

2(c) Key:

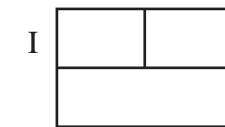
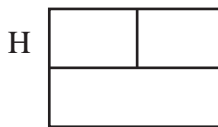
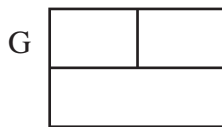
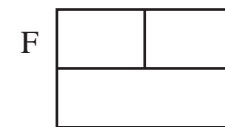
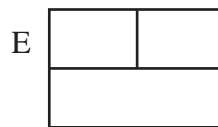
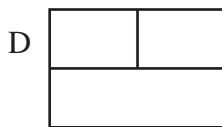
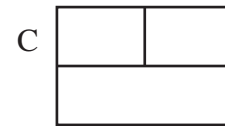
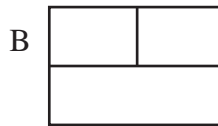
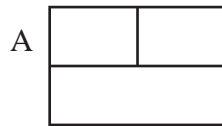
Order of becoming permanent



Permanent label

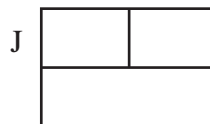
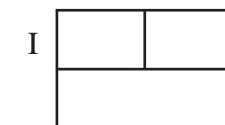
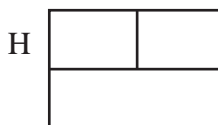
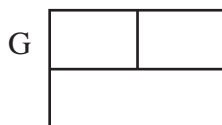
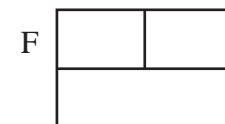
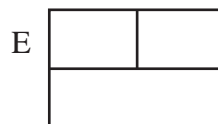
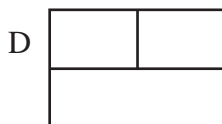
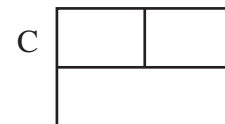
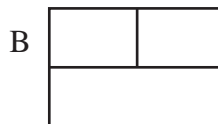
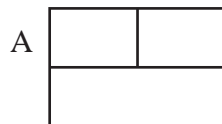
Temporary labels (working values)

Do not cross out your temporary labels.

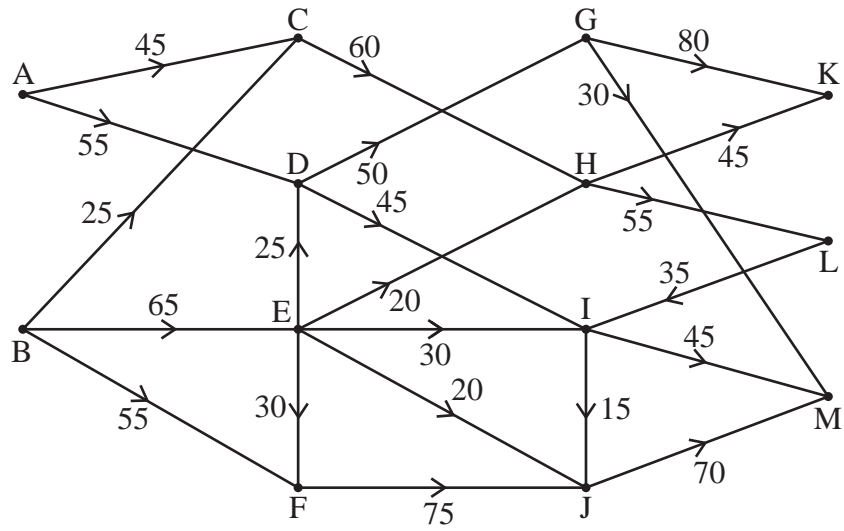


Length of shortest path from G to J via D = _____

spare copy



3(a)



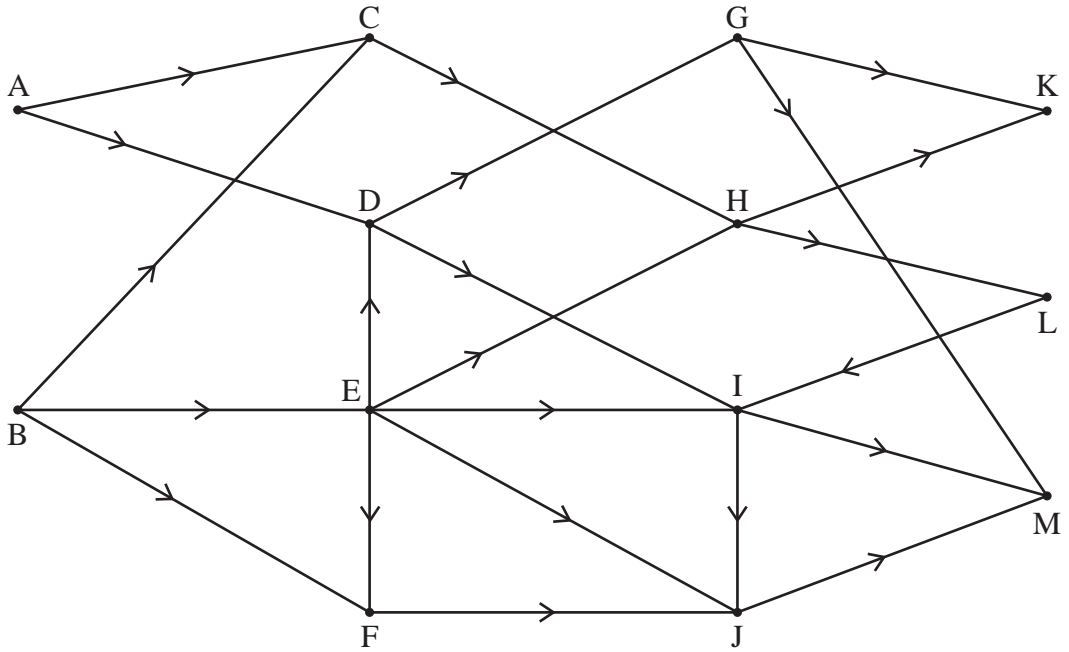
3(b)

3(c)

3(d)(i)

3(d)(ii)

3(e)



Maximum flow = _____

3(f)

4(a)			
4(d)(i)			
4(d)(ii)			
4(d)(iii)			

4(b)(c)

Turn over

5(b)

P	x	y	s_1	s_2	s_3	RHS

P	x	y	s_1	s_2	s_3	RHS

5(c)	
5(d)	