

Modified Enlarged 24pt
OXFORD CAMBRIDGE AND RSA EXAMINATIONS

Monday 5 June 2023 – Afternoon

A Level Further Mathematics B (MEI)

Y433/01 Modelling with Algorithms

Time allowed: 1 hour 15 minutes
plus your additional time allowance

YOU MUST HAVE:

Question Paper Y433/01 (with this document)

the Formulae Booklet for Further Mathematics B (MEI)

a scientific or graphical calculator

Please write clearly in black ink.

Centre number

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Candidate number

--	--	--	--

First name(s) _____

Last name _____

READ INSTRUCTIONS OVERLEAF



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.

ADVICE

Read each question carefully before you start your answer.

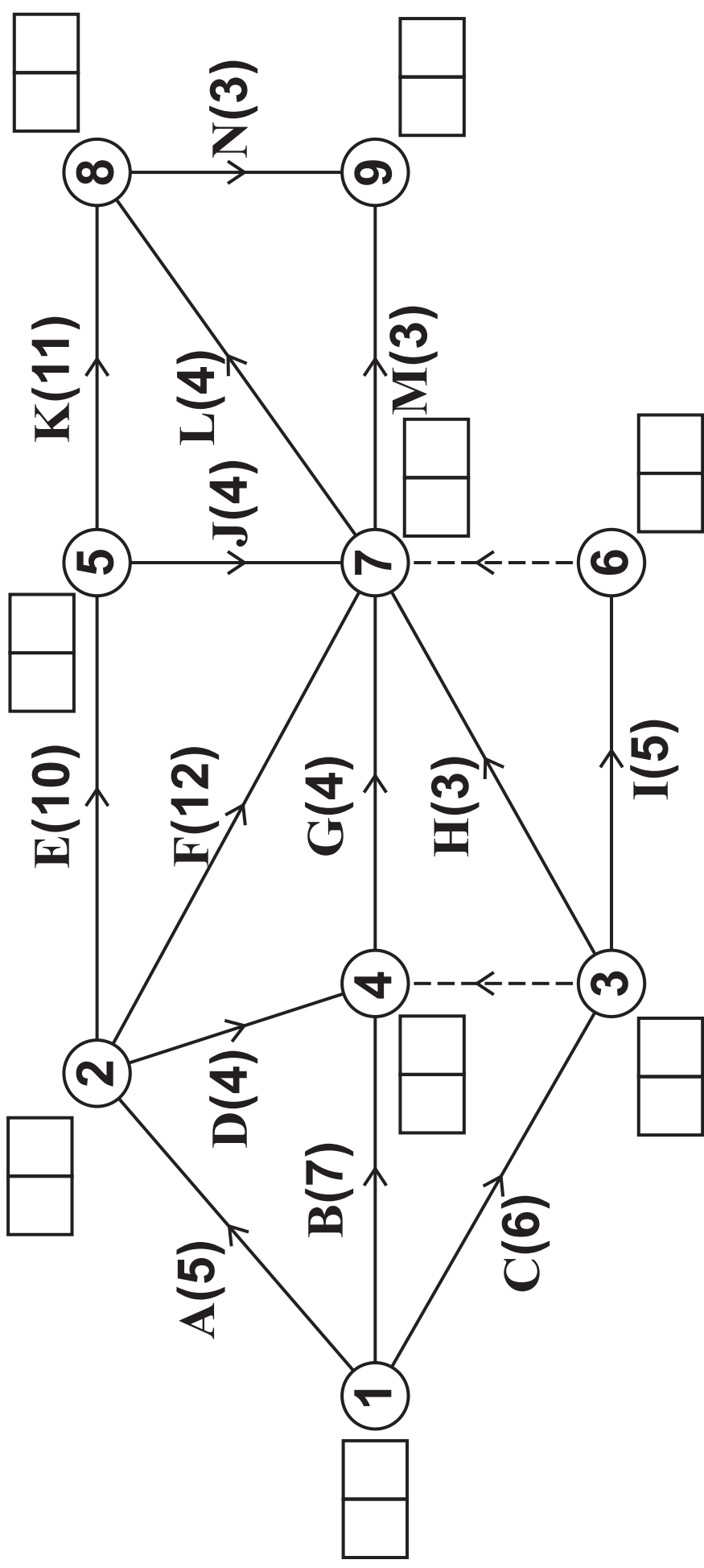
1(a)

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

1(c)

2(a)

2(b)



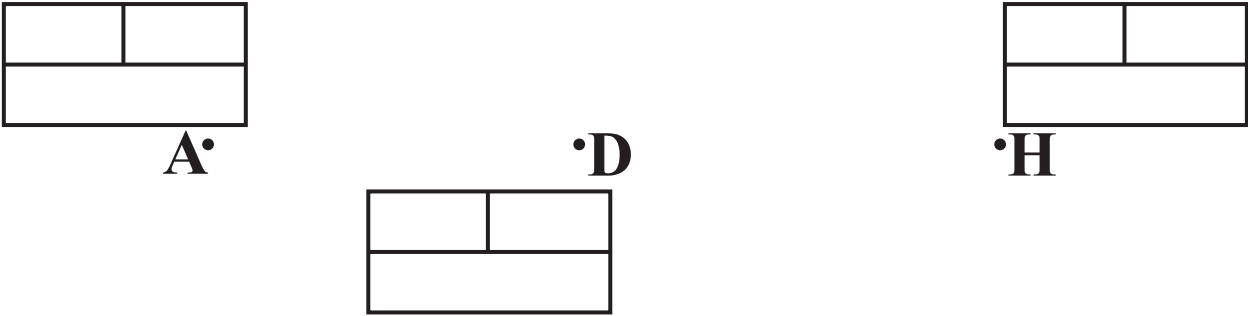
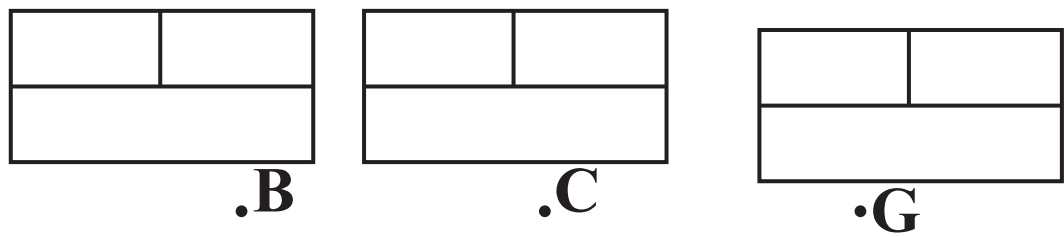
Minimum completion time: _____

Critical activities: _____

2(c)

2(d)

3(a) and 3(c)



Key:

Order of labelling

Working values

(do not cross out)

Label

Shortest path from A to H: _____

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

5(a)

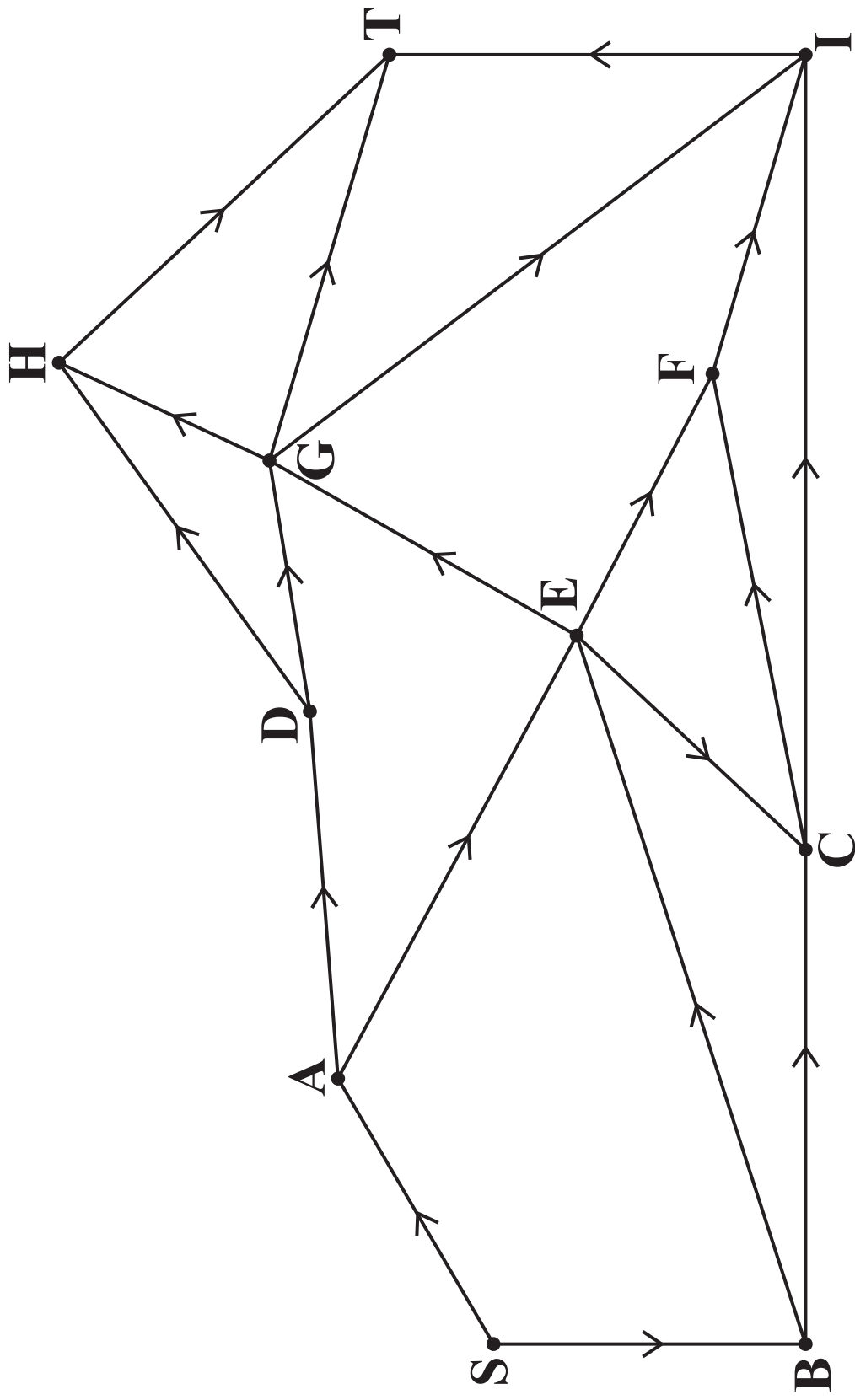
5(b)(i)

5(b)(ii) _____

5(c) _____

5(d)

5(e)



Maximum flow through the network: _____

[illegible]

[illegible]

6(b)

6(c)

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

[illegible]

6(e)

6(f)

<i>Q</i>	<i>P</i>	<i>x</i>	<i>y</i>	<i>z</i>	<i>s₁</i>	<i>s₂</i>	<i>s₃</i>	<i>a₁</i>	RHS

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).

[illegible]



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