OCR
Oxford Cambridge and RSA

AS Level Further Mathematics B (MEI)

Y413/01 Modelling with Algorithms
Printed Answer Booklet

Thursday 17 May 2018 – Afternoon

Time allowed: 1 hour 15 minutes

7085891076

You must have:
- Question Paper Y413/01 (inserted)
- Formulae Further Mathematics B (MEI)

You may use:
- a scientific or graphical calculator

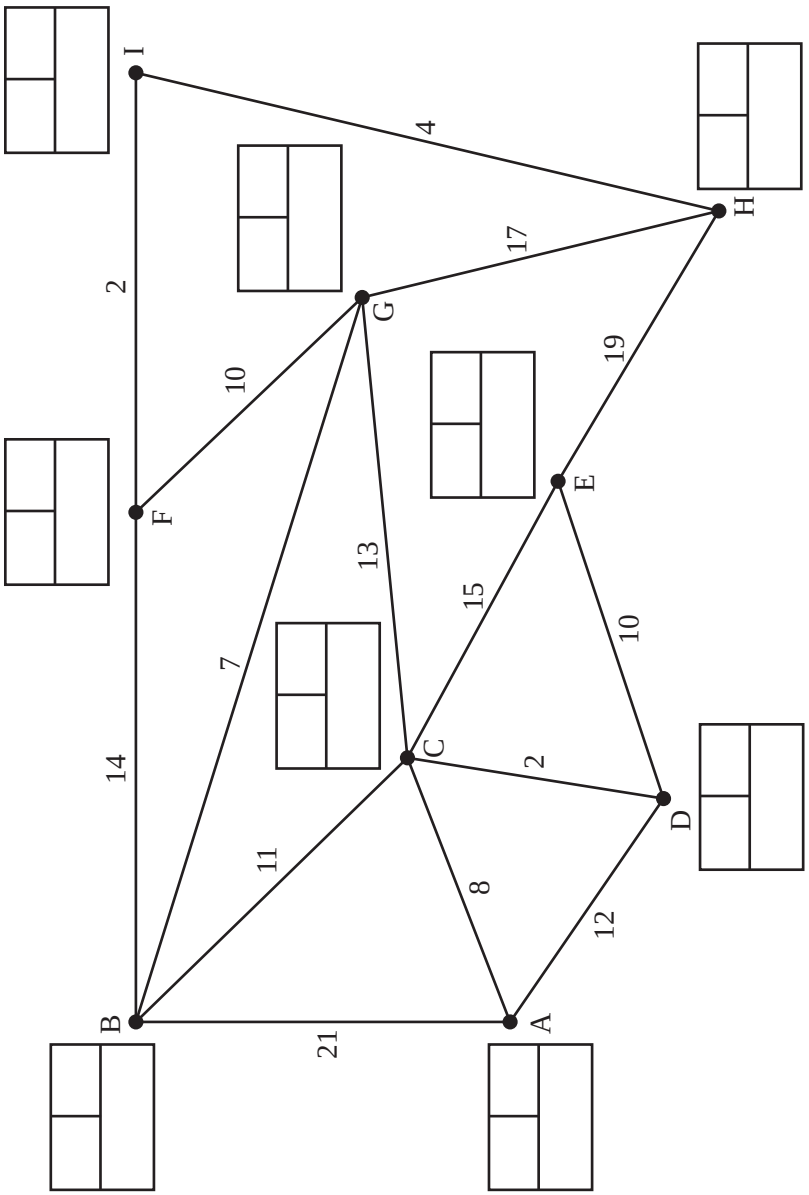
Y 4 1 3 0 1

First name										
Last name										
Centre number						Candidate number				

INSTRUCTIONS
- The Question Paper will be found inside the Printed Answer Booklet.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Complete the boxes provided on the Printed Answer Booklet with your name, centre number and candidate number.
- Answer **all** the questions.
- **Write your answer to each question in the space provided in the Printed Answer Booklet.** If additional space is required, you should use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the barcodes.
- You are permitted to use a scientific or graphical calculator in this paper.
- Final answers should be given to a degree of accuracy appropriate to the context.

INFORMATION
- You are advised that an answer may receive **no marks** unless you show sufficient detail of the working to indicate that a correct method is used. You should communicate your method with correct reasoning.
- The Printed Answer Booklet consists of **12** pages. The Question Paper consists of **12** pages.

1(i)



Key:

Order of becoming permanent

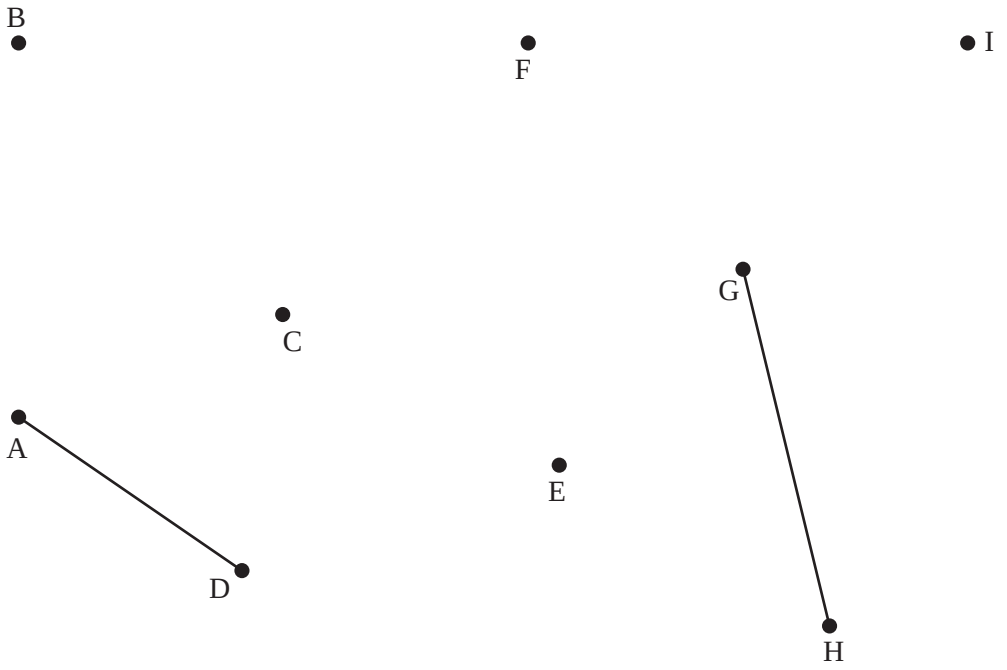
Permanent label

Temporary labels (working values)

Do not cross out your temporary labels

1(ii)

CD = 2
FI = 2
HI = 4
BG = 7
AC = 8
FG = 10
DE = 10
BC = 11
CG = 13
BF = 14
CE = 15
EH = 19
AB = 21



Total length of arcs in spanning tree = ...

1(iii)

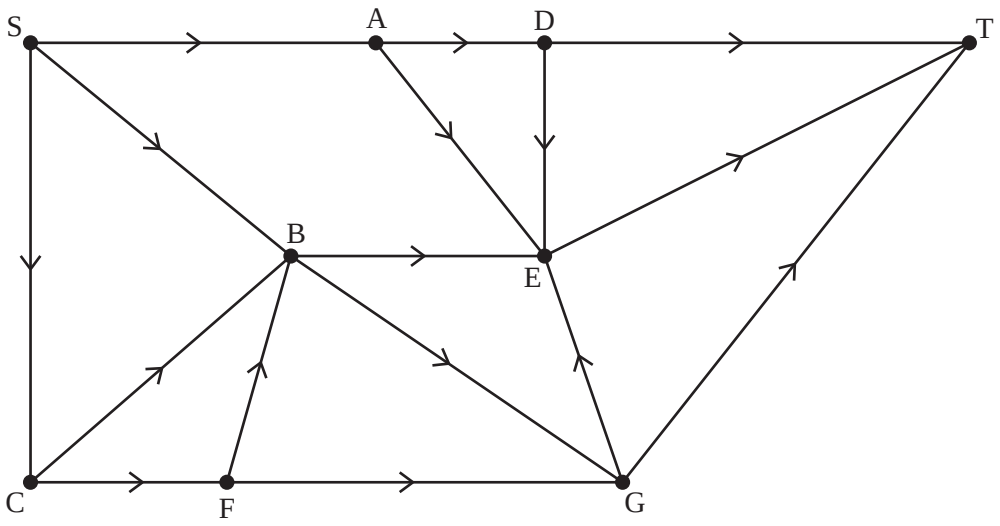
2(i)

2(ii)(*A*)

2(ii)(*B*)

2(iii)

2(iv)



3(i)	12 34 15 23 10 25
3(ii)	
3(iii)	

4(i)(*A*)	
4(i)(*B*)	
4(ii)(*A*)	
4(ii)(*B*)	
4(iii)(*A*)	
4(iii)(*B*)	
4(iv)(*A*)	
4(iv)(*B*)	

5(i)

5(ii)(*A*)

Activity	Duration
A	
B	
C	
D	
E	
F	
G	
H	
I	
J	

5(ii)(*B*)

5(iii)

6(i)

Q	P	x	y	z	s_1	s_2	s_3	a_1	RHS

6(ii)

6(iii)

P	x	y	z	s_1	s_2	s_3	RHS

P	x	y	z	s_1	s_2	s_3	RHS

6(iv)	
6(v)	
6(vi)	

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).