

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

You must have:

- Question Paper Y413/01 (inserted)
- Formulae Further Mathematics B (MEI)

You may use:

· a scientific or graphical calculator



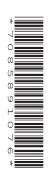
First name	
Last name	
Centre number	Candidate number

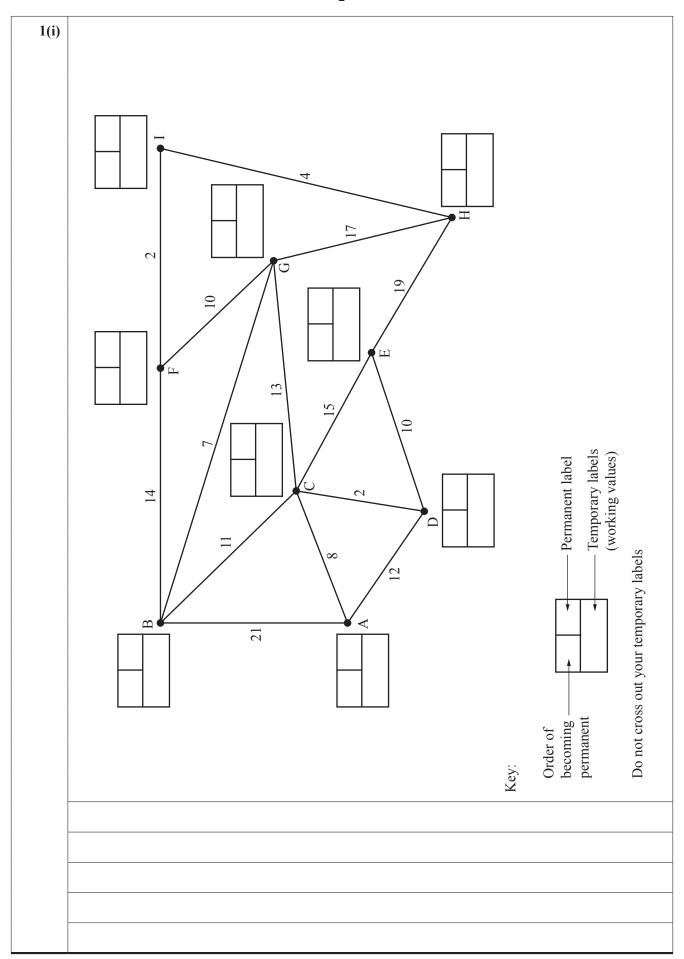
INSTRUCTIONS

- 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(ii)		D				
	CD = 2 FI = 2 HI = 4 BG = 7 AC = 8 FG = 10 DE = 10 BC = 11 CG = 13	B ●	• C	• F	G	●I
	BF = 14 CE = 15 EH = 19 AB = 21	A		● E	H	
		Total length of arcs	in spanning tree =			
1(iii)						
1(iii)						

2(i)	
2(ii) (A)	
2(ii) (B)	
2(iii)	
2(iv)	$\bigcap_{C} \bigcap_{F} \bigcap_{C} \bigcap_{C$

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)	
40. 100	
4(iv) (B)	

5(i)			
5(ii) (A)			
	Activity	Duration	
	Activity	Duration	
	В		
	C		
	D		
	Е		
	F		
	G		
	Н		
	I		
	J		
5(ii) (B)			
5(iii)			
5(iii)			

Q	P	x	у	z	<i>s</i> ₁	s_2	<i>s</i> ₃	a_1	RHS
Q	P	x	у	Z	<i>S</i> ₁	s ₂	S ₃		RHS
Q	P	x	у	Z	<i>S</i> ₁	s ₂	<i>s</i> ₃		RHS
Q	P	x	y	z	<i>s</i> ₁	<i>s</i> ₂	<i>S</i> ₃		RHS
Q	P	x	y	Z	<i>s</i> ₁	s ₂	<i>S</i> ₃		RHS
Q	P	X	y		<i>S</i> ₁	<i>s</i> ₂	S ₃		RHS

6(ii)									
-									
6(iii)									
(111)									
	P	x	у	Z	<i>s</i> ₁	s_2	s_3	RHS	
			,		1	2	3		
-									
	P	x	у	Z	<i>s</i> ₁	<i>s</i> ₂	<i>s</i> ₃	RHS	

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

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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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