



Oxford Cambridge and RSA

**Tuesday 18 June 2019 – Morning**

**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 (inserted)
- Formulae Further Mathematics B (MEI)

**You may use:**

- 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**

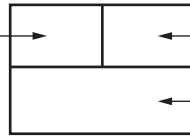
- The Question Paper will be found inside the Printed Answer Booklet.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- **Write your answer to each question in the space provided in the Printed Answer Booklet.** Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- 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 reminded of the need for clear presentation in your answers.**
- The Printed Answer Booklet consists of **12** pages. The Question Paper consists of **12** pages.

1(a) Key:

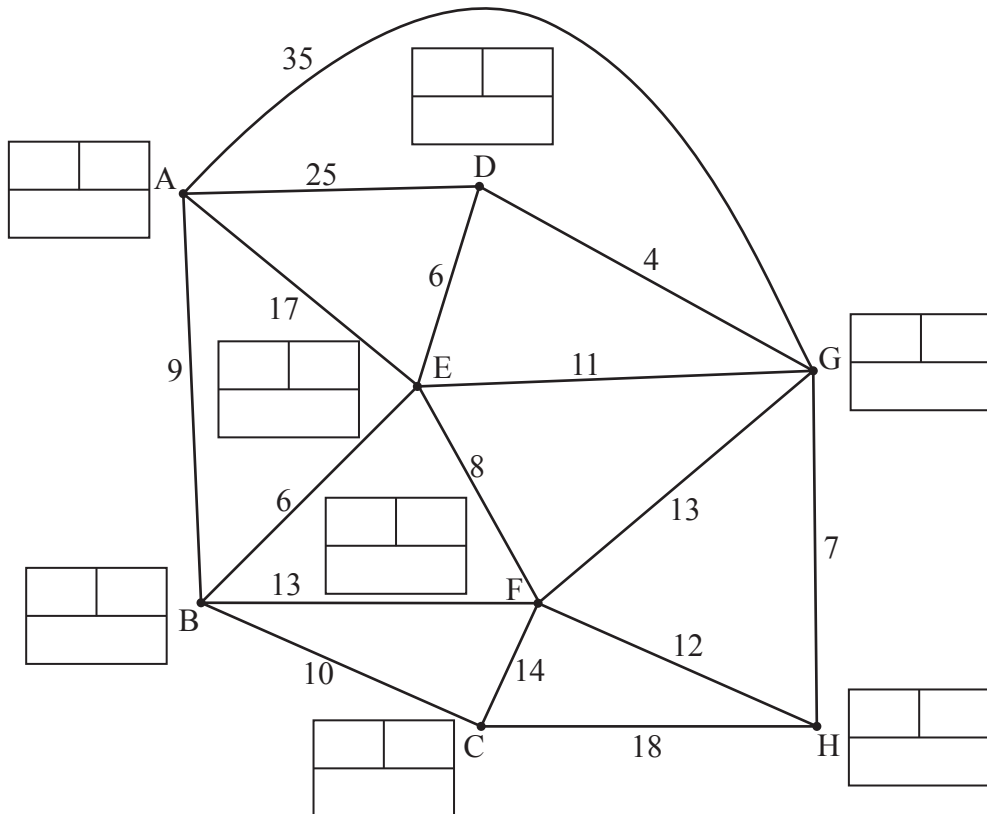
Order of becoming permanent



Permanent label

Temporary labels (working values)

Do not cross out your temporary labels.




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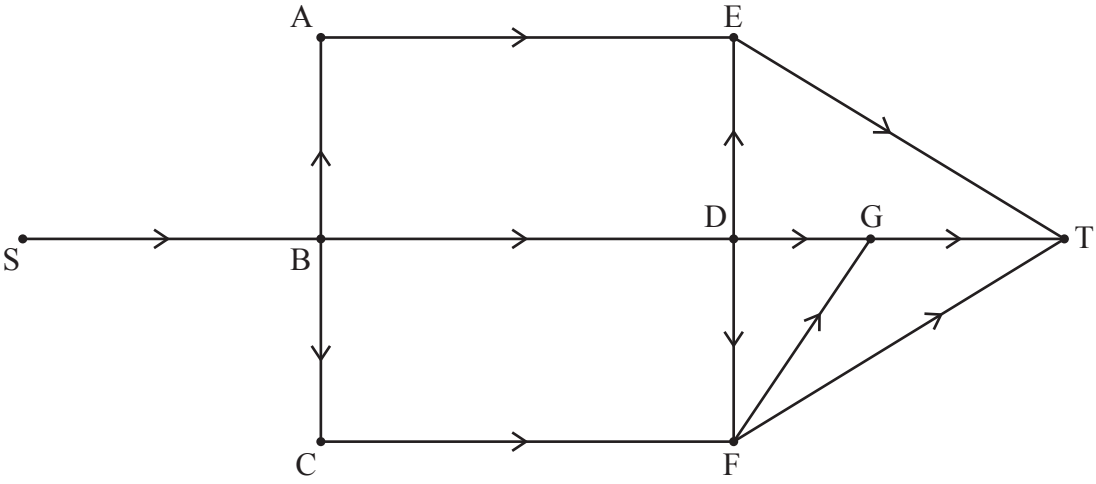
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<b>1(b)</b>	35	25	18	17	14	13	13	12	11	10	9	8	7	6	6	4

<b>1(c)</b>	

**2(a)**  
**and (b)**




<b>3(a)(i)</b>	
<b>3(a)(ii)</b>	
<b>3(b)</b>	
<b>3(c)</b>	



<b>4(a)(i)</b>	
<b>4(a)(ii)</b>	
<b>4(b)(i)</b>	
<b>4(b)(ii)</b>	
<b>4(c)</b>	
<b>4(d)(i)</b>	



<b>4(d)(ii)</b>	

<b>4(e)</b>	

<b>5(a)</b>	
<b>5(b)</b>	
<b>5(c)</b>	

5(d)

$P$	$x$	$y$	$z$	$s_1$	$s_2$	$s_3$	$s_4$	RHS

$P$	$x$	$y$	$z$	$s_1$	$s_2$	$s_3$	$s_4$	RHS

