

**Thursday 6 June 2013 – Morning**

**AS GCE MATHEMATICS (MEI)**

**4771/01** Decision Mathematics 1

**PRINTED ANSWER BOOK**

Candidates answer on this Printed Answer Book.

**OCR supplied materials:**

- Question Paper 4771/01 (inserted)
- MEI Examination Formulae and Tables (MF2)

**Other materials required:**

- Scientific or graphical calculator

**Duration:** 1 hour 30 minutes



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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**INSTRUCTIONS TO CANDIDATES**

These instructions are the same on the Printed Answer Book and the Question Paper.

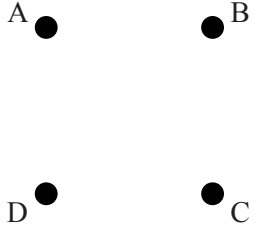
- The Question Paper will be found in the centre of the Printed Answer Book.
- Write your name, centre number and candidate number in the spaces provided on the Printed Answer Book. Please write clearly and in capital letters.
- **Write your answer to each question in the space provided in the Printed Answer Book.** Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- You are permitted to use a graphical calculator in this paper.
- Final answers should be given to a degree of accuracy appropriate to the context.

**INFORMATION FOR CANDIDATES**

This information is the same on the Printed Answer Book and the Question Paper.

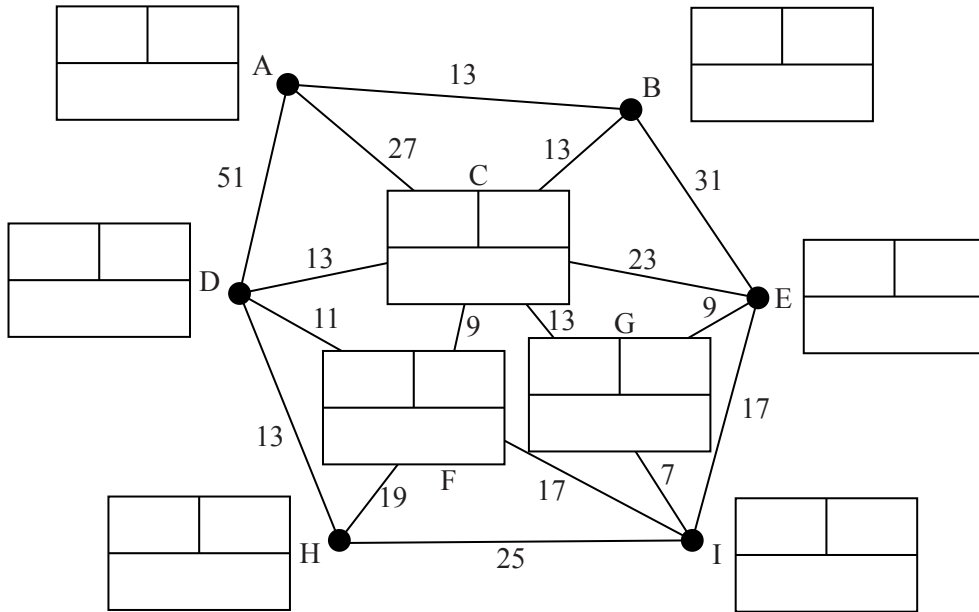
- The number of marks is given in brackets [ ] at the end of each question or part question on the Question Paper.
- You are advised that an answer may receive **no marks** unless you show sufficient detail of the working to indicate that a correct method is being used.
- The total number of marks for this paper is **72**.
- The Printed Answer Book consists of **12** pages. The Question Paper consists of **8** pages. Any blank pages are indicated.

## Section A (24 marks)

1 (i)	
1 (ii)	
1 (iii)	

<b>2 (i)</b>	<i>i</i> th pass								
	<i>i</i> =1	9	7	3	11	5	13	comparisons	swaps
	<i>i</i> =2							5	3
	<i>i</i> =3								
	<i>i</i> =4								
	<i>i</i> =5								
<b>2 (ii)</b>									
<b>2 (iii)</b>									

3(i)

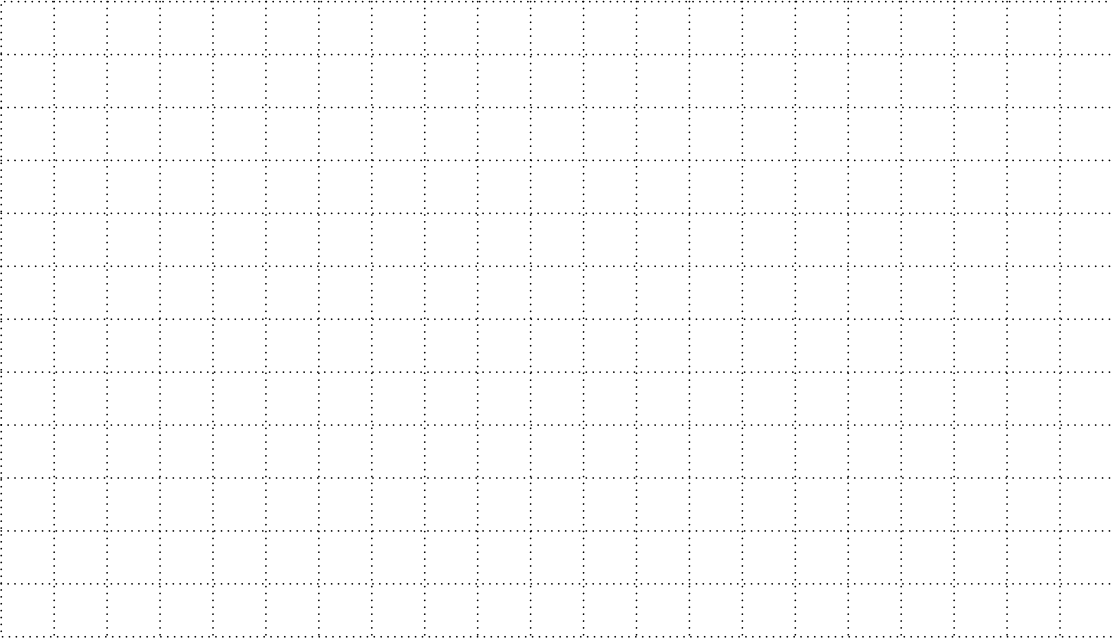


From A to	Shortest route	Distance (miles)
B		
C		
D		
E		
F		
G		
H		
I		

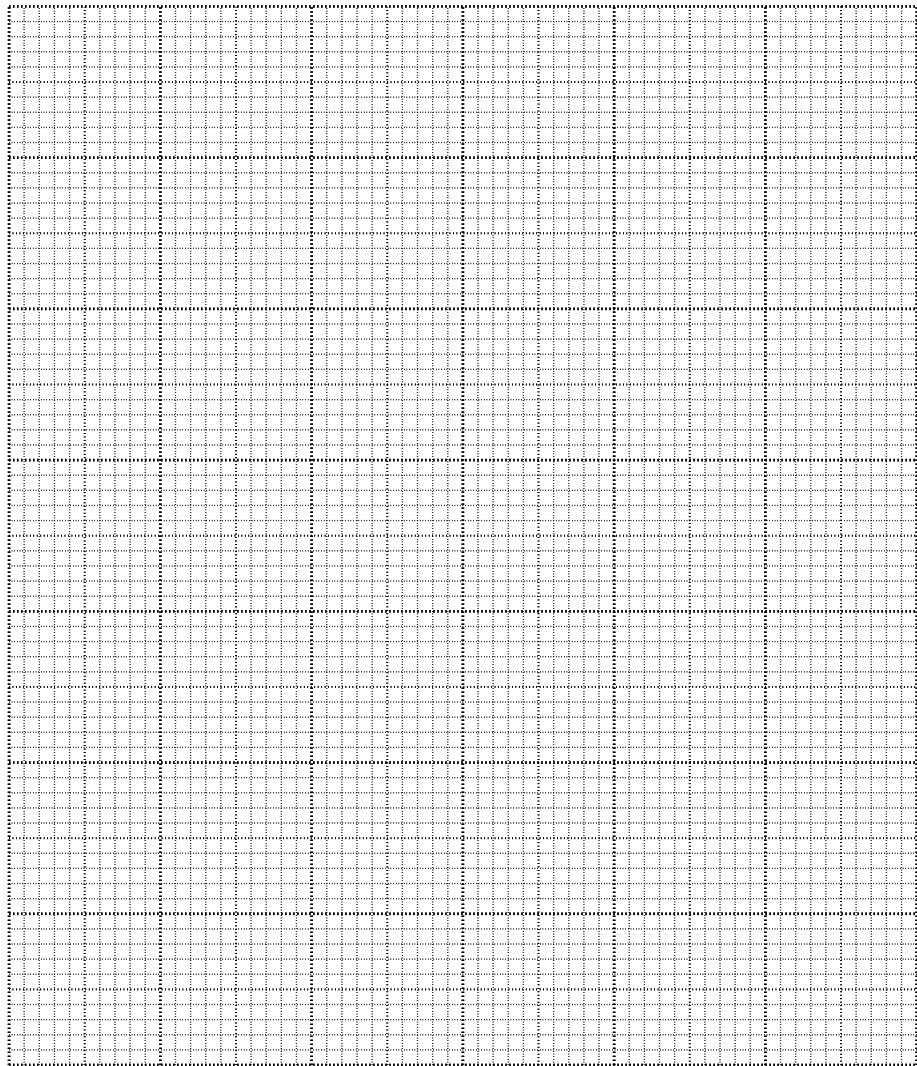
There is a spare copy of the network and table on page 10.

3(ii)


**Section B (48 marks)**

<b>4 (i) &amp; (ii)</b>	
<b>4 (iii)</b>	
<b>4 (iv)</b>	 <p><b>There is a spare copy of this grid on page 11.</b></p>

5(i)



**There is a spare copy of this graph paper on page 12.**

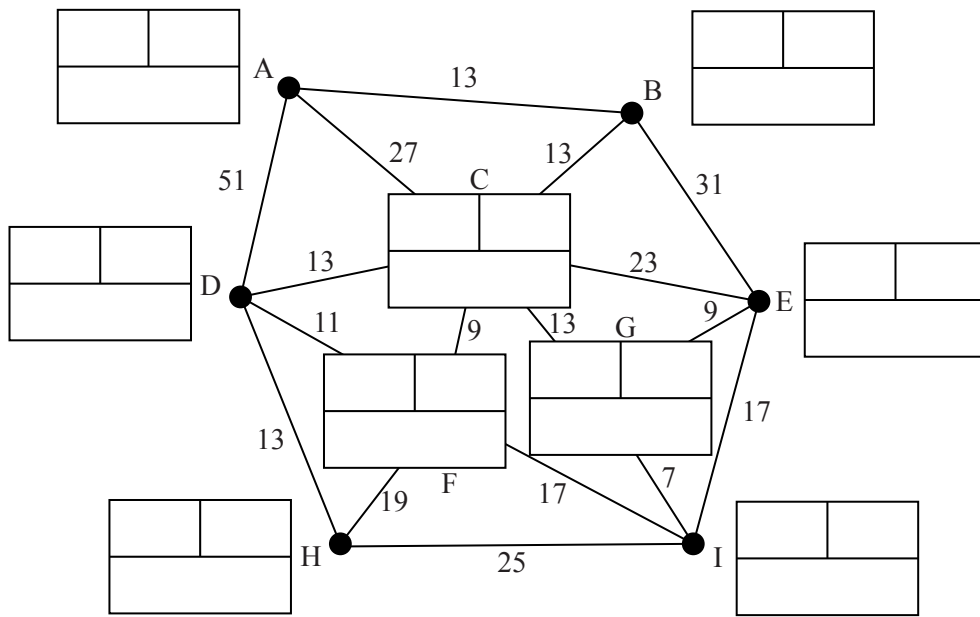
<b>5 (ii)</b>	
<b>5 (iii)</b>	
<b>5 (iv)</b>	

<b>6(i)</b>											
<b>6(ii)</b>	customer number	1	2	3	4	5	6	7	8	9	10
	random number		5	3	2	4	7	9	1	1	8
	time interval (mins)										
	arrival time	0									
<b>6(iii)</b>											
<b>6(iv)</b>	Random numbers: 23 15 98 01 32 45 47 86 71 17 83 31 45 37 05 21 90 06 54 22										
	customer number	1	2	3	4	5	6	7	8	9	10
	processing time										
<b>6(v)</b>											
<b>6(vi)</b>	customer number	1	2	3	4	5	6	7	8	9	10
	random number	8	3	0	1	4	0	2	5	7	6
	payment time										



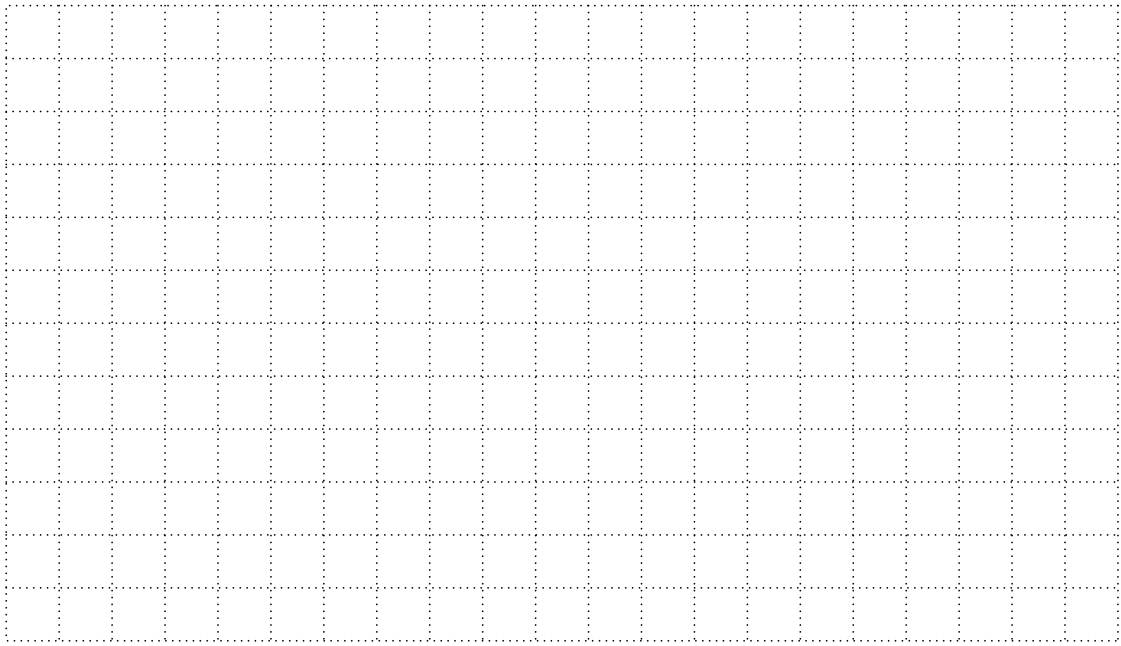
<b>6 (vii)</b>	customer number	1	2	3	4	5	6	7	8	9	10
	arrival										
	departure										
<b>6 (viii)</b>	customer number	1	2	3	4	5	6	7	8	9	10
	arrival										
	departure										

3 (i) Spare copy of network and table for 3 (i).

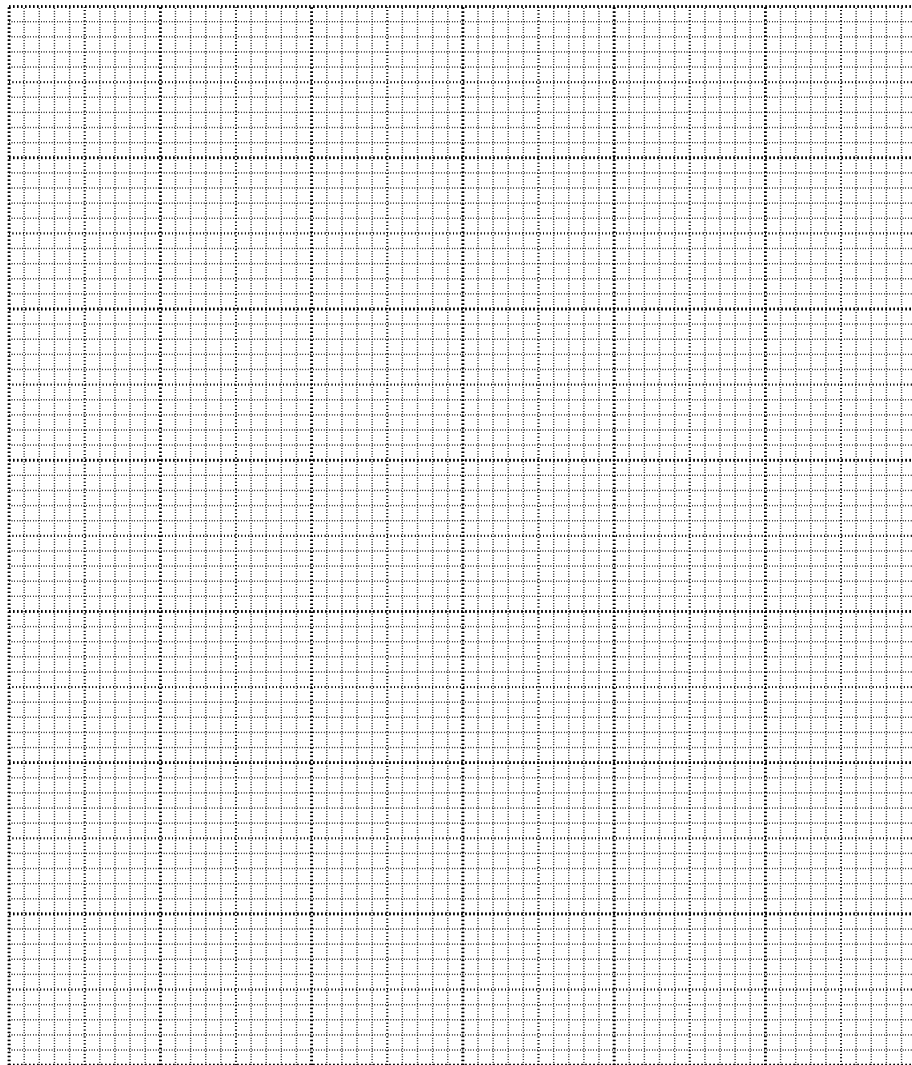


From A to	Shortest route	Distance (miles)
B		
C		
D		
E		
F		
G		
H		
I		

4 (iv) Spare copy of grid for 4 (iv).



**PLEASE DO NOT WRITE IN THIS SPACE**

**5(i) Spare copy of graph paper for 5(i).****Copyright Information**

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