

**ADVANCED SUBSIDIARY GCE
MATHEMATICS (MEI)**
Decision Mathematics 1

4771

PRINTED ANSWER BOOK

Candidates answer on the printed answer book.

OCR supplied materials:

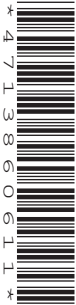
- Question paper 4771 (inserted)
- MEI Examination Formulae and Tables (MF2)

Other materials required:

- Scientific or graphical calculator

**Wednesday 22 June 2011
Morning**

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. 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

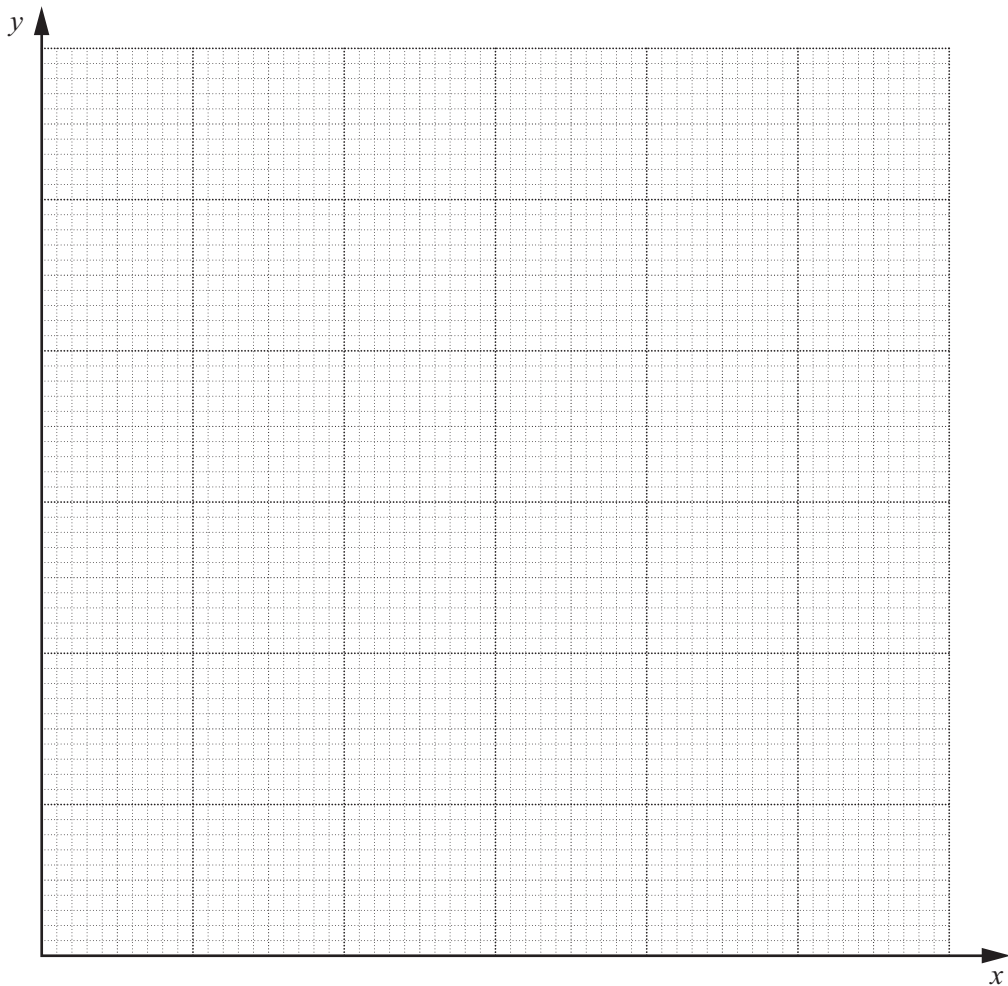
This information is the same on the printed answer book and the question paper.

- 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)

<p>1 (i)</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center; vertical-align: middle;"> <p>5 ●</p> <p>4 ●</p> <p>3 ●</p> <p>2 ●</p> <p>1 ●</p> <p>0 ●</p> </td> <td style="width: 50%; text-align: center; vertical-align: middle;"> <p>● 5</p> <p>● 4</p> <p>● 3</p> <p>● 2</p> <p>● 1</p> <p>● 0</p> </td> </tr> <tr> <td style="text-align: center; vertical-align: middle;"> <p>number of pairs of shoes</p> </td> <td style="text-align: center; vertical-align: middle;"> <p>number of people</p> </td> </tr> </table>	<p>5 ●</p> <p>4 ●</p> <p>3 ●</p> <p>2 ●</p> <p>1 ●</p> <p>0 ●</p>	<p>● 5</p> <p>● 4</p> <p>● 3</p> <p>● 2</p> <p>● 1</p> <p>● 0</p>	<p>number of pairs of shoes</p>	<p>number of people</p>						
<p>5 ●</p> <p>4 ●</p> <p>3 ●</p> <p>2 ●</p> <p>1 ●</p> <p>0 ●</p>	<p>● 5</p> <p>● 4</p> <p>● 3</p> <p>● 2</p> <p>● 1</p> <p>● 0</p>										
<p>number of pairs of shoes</p>	<p>number of people</p>										
<p>1 (ii)</p>	<table border="1" style="width: 100%; height: 100%;"> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> </table>										
<p>1 (iii)</p>	<table border="1" style="width: 100%; height: 100%;"> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> </table>										
<p>1 (iv)</p>	<table border="1" style="width: 100%; height: 100%;"> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> </table>										
<p>1 (v)</p>	<table border="1" style="width: 100%; height: 100%;"> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> </table>										

2 (i)



2 (ii)

3 (i)

x	1	2	3
Probability($X = x$)	$\frac{1}{2}$	$\frac{1}{6}$	$\frac{1}{3}$

3 (ii)

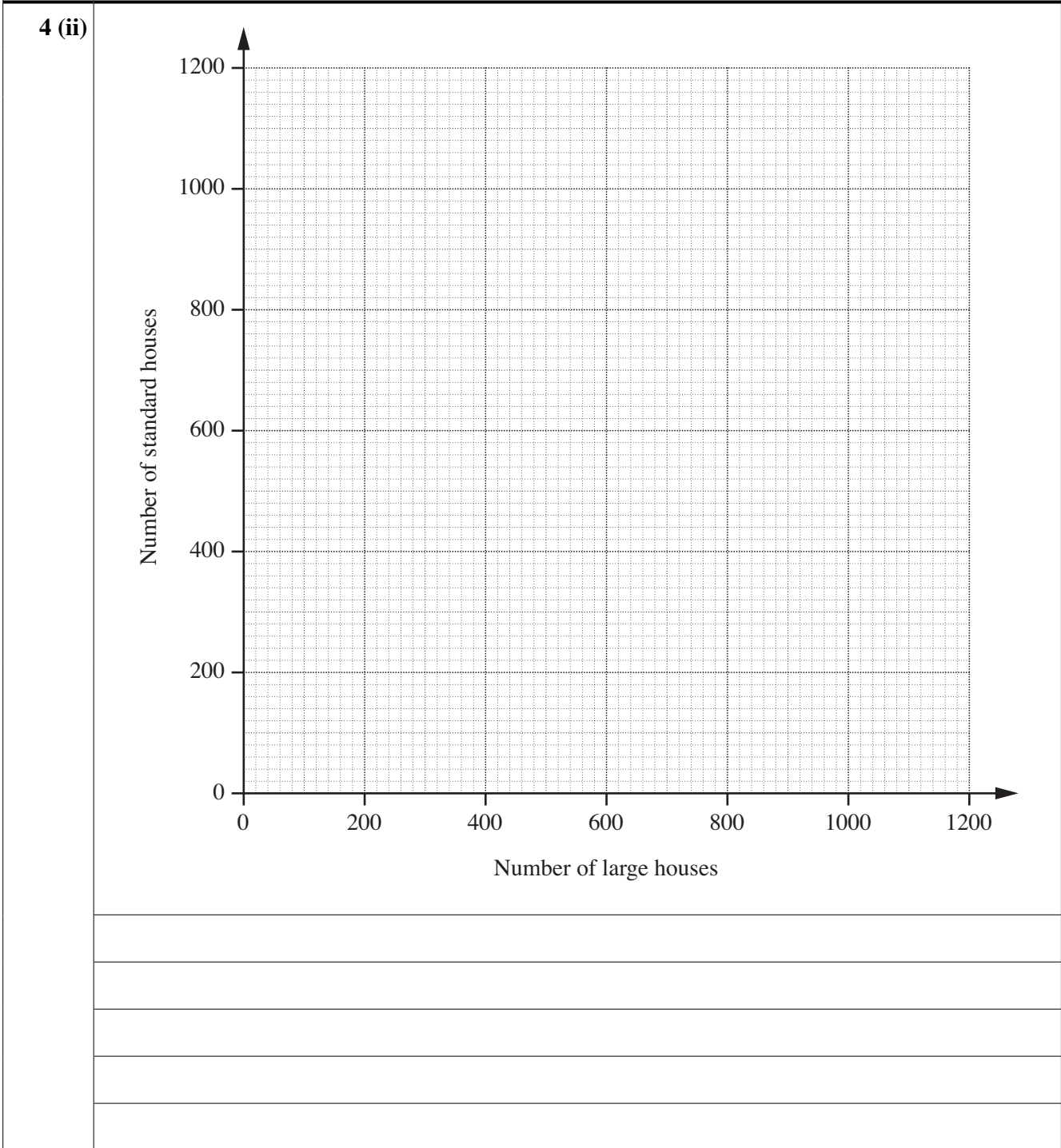
y	1	2	3
Probability($Y = y$)	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{4}$

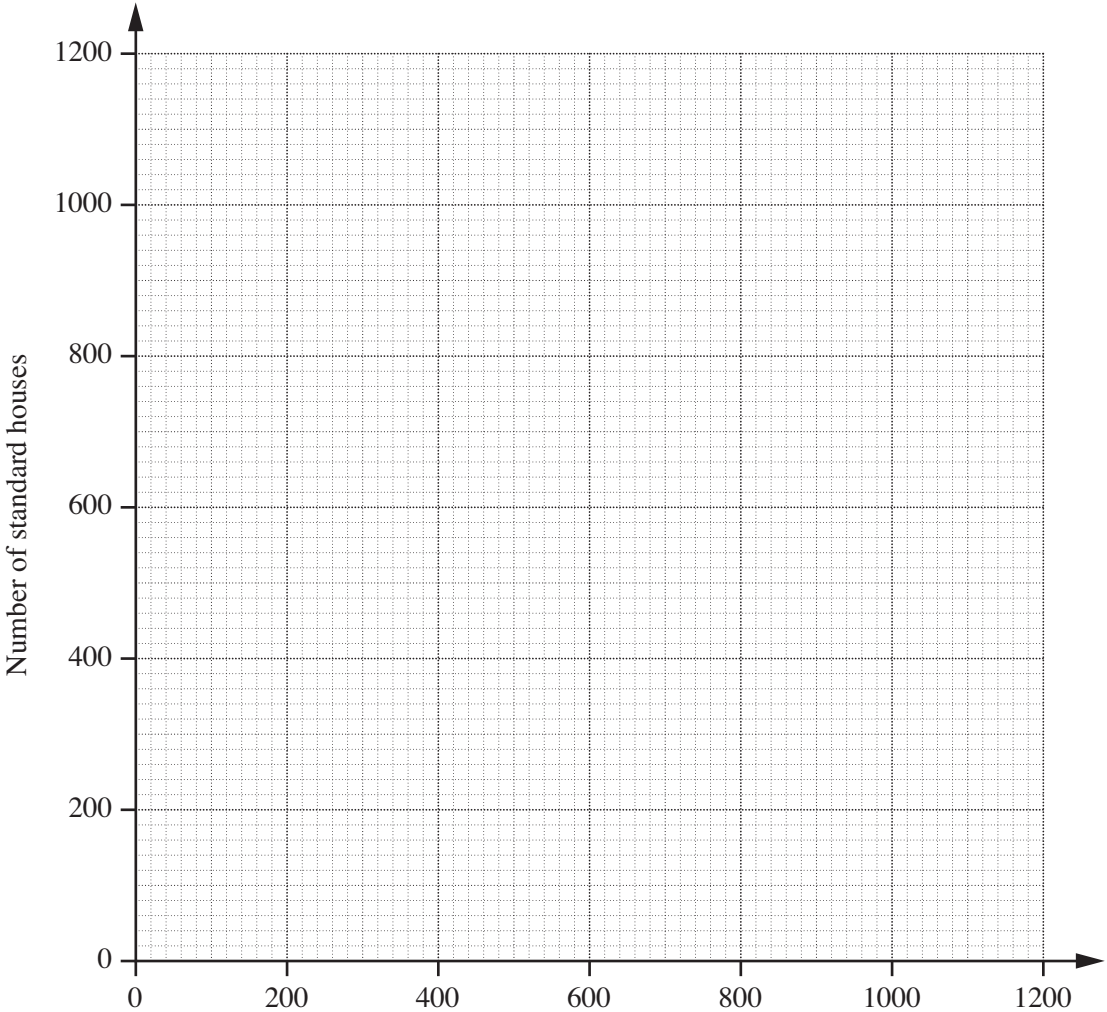
3 (iii)	

PLEASE DO NOT WRITE ON THIS SPACE

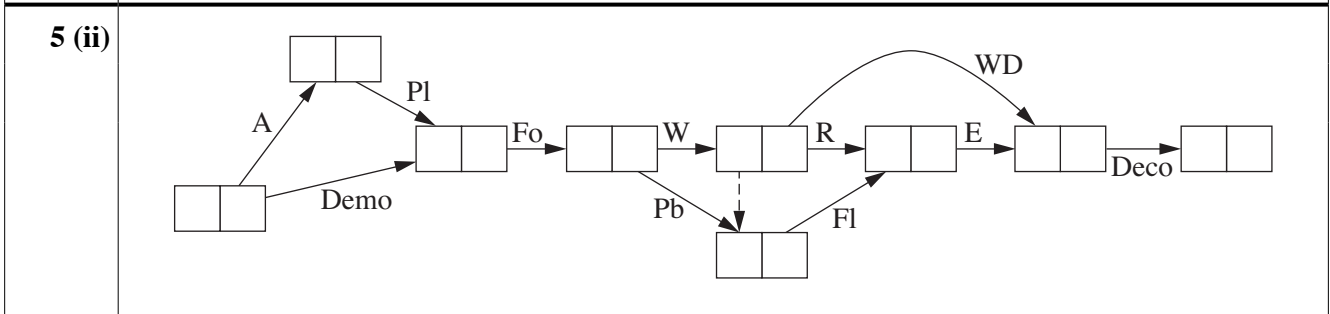
Section B (48 marks)

4 (i)	



4 (iii)	
4 (iv)	
4 (ii)	<p>SPARE COPY OF GRAPH PAPER</p> 

5 (i)	Activity	Immediate predecessor(s)
	A	
	Pl	
	Demo	
	Fo	
	W	
	Pb	
	R	
	Fl	
	E	
	WD	
	Deco	



5 (iii)

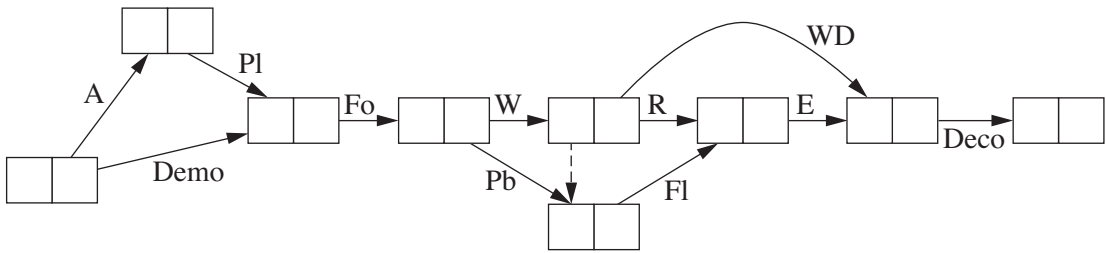
task:	A	Pl	Demo	Fo	W	Pb	R	Fl	E	WD	Deco
float:											

5 (iv)

5 (v)

5 (vi)

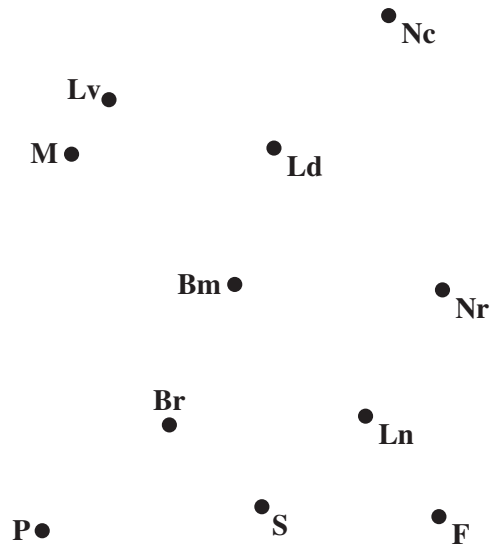
5 (ii) SPARE COPY OF ACTIVITY NETWORK



6 (i)

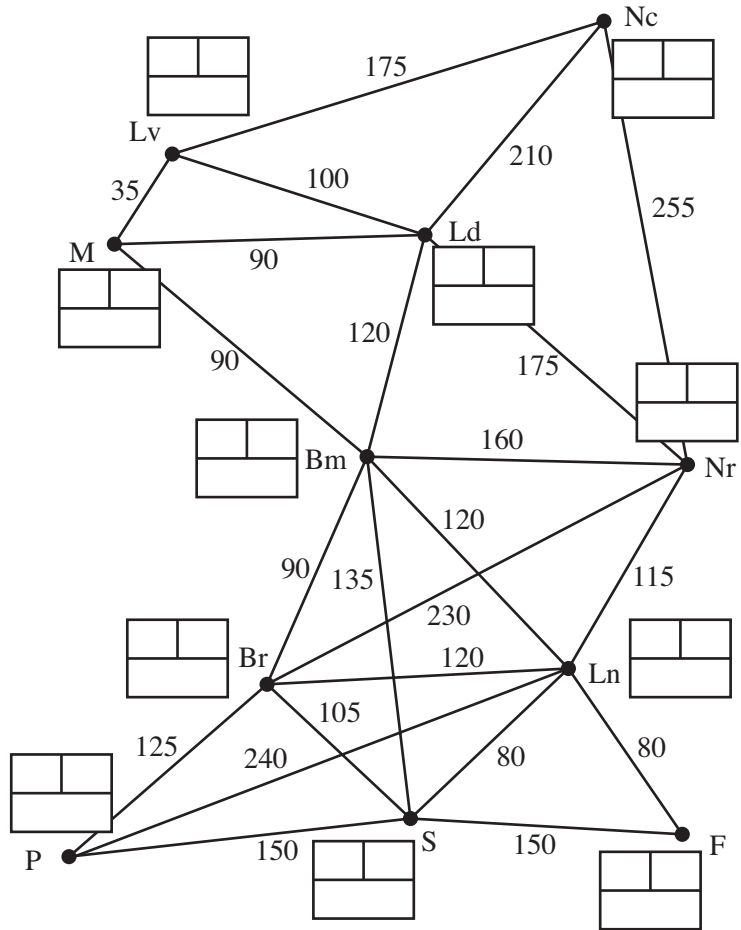
	P	S	F	Ln	Br	Nr	Bm	Ld	Nc	Lv	M
P	-	150	-	240	125	-	-	-	-	-	-
S	150	-	150	80	105	-	135	-	-	-	-
F	-	150	-	80	-	-	-	-	-	-	-
Ln	240	80	80	-	120	115	120	-	-	-	-
Br	125	105	-	120	-	230	90	-	-	-	-
Nr	-	-	-	115	230	-	160	175	255	-	-
Bm	-	135	-	120	90	160	-	120	-	-	90
Ld	-	-	-	-	-	175	120	-	210	100	90
Nc	-	-	-	-	-	255	-	210	-	175	-
Lv	-	-	-	-	-	-	-	100	175	-	35
M	-	-	-	-	-	-	90	90	-	35	-

Min connector



6 (ii)

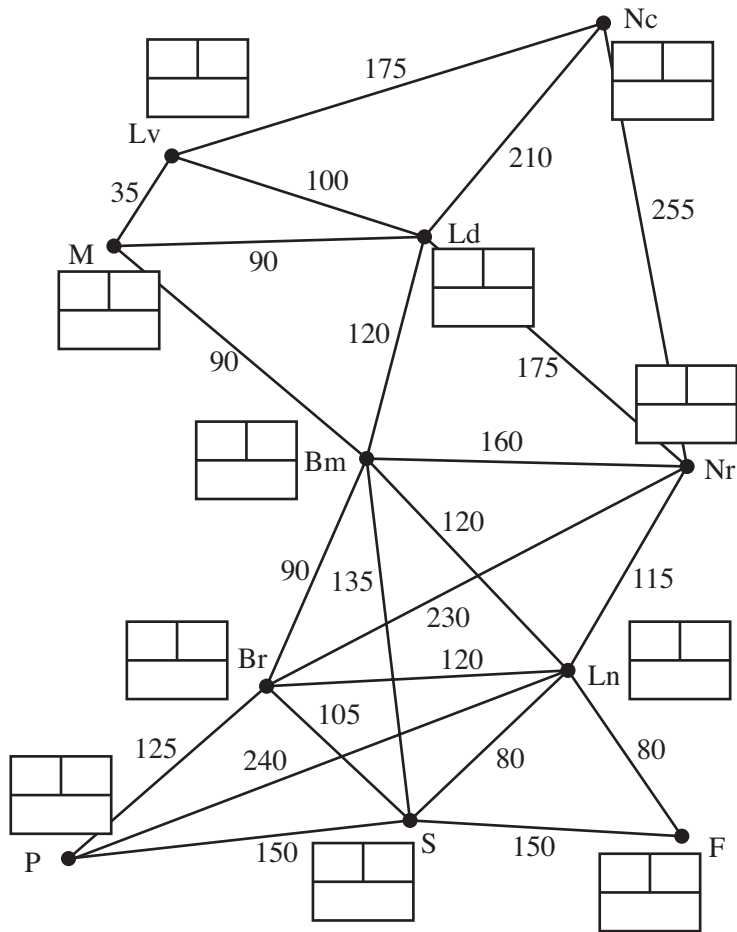
6 (iii)



THERE IS A SPARE COPY OF THIS NETWORK ON PAGE 12.

6 (iv)

6 (iii) SPARE COPY OF NETWORK



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