

1. (a) _____

(b)

	1	2	3	4	5
A					
B					
C					
D					
E					

	1	2	3	4	5
A					
B					
C					
D					
E					

	1	2	3	4	5
A					
B					
C					
D					
E					

	1	2	3	4	5
A					
B					
C					
D					
E					



Leave blank

	1	2	3	4	5
A					
B					
C					
D					
E					

	1	2	3	4	5
A					
B					
C					
D					
E					

	1	2	3	4	5
A					
B					
C					
D					
E					

(Total 9 marks)

Q1





2.

Lined writing area with horizontal lines.

Leave blank





3.

A series of horizontal lines for writing, spanning the width of the page.

Leave blank

6



N 3 3 7 0 4 A 0 6 1 6



Leave blank

Lined writing area with 30 horizontal lines.

Q3

(Total 7 marks)

7

Turn over



4. (a)

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>
<i>A</i>	-	98	123	68	96	71
<i>B</i>	98	-	74	129	47	120
<i>C</i>	123	74	-	102	111	63
<i>D</i>	68	129	102	-	85	59
<i>E</i>	96	47	111	85	-	115
<i>F</i>	71	120	63	59	115	-

(b)

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>
<i>A</i>	-	98	123	68	96	71
<i>B</i>	98	-	74	129	47	120
<i>C</i>	123	74	-	102	111	63
<i>D</i>	68	129	102	-	85	59
<i>E</i>	96	47	111	85	-	115
<i>F</i>	71	120	63	59	115	-

(c)

(Total 8 marks)

Q4



BLANK PAGE



5. (a) Cut 1 = _____
 Cut 2 = _____
 Value of initial flow = _____

(b)

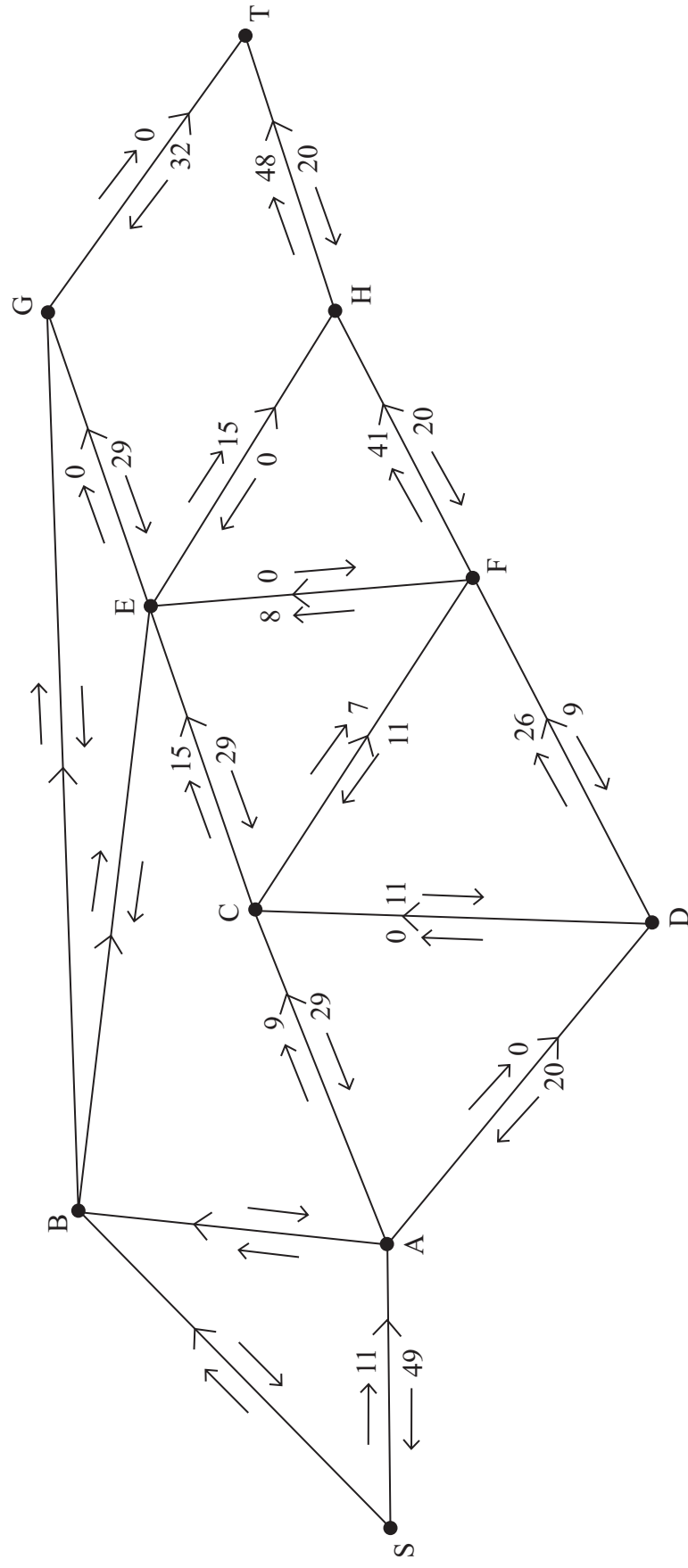


Figure 1

Leave blank



(c)

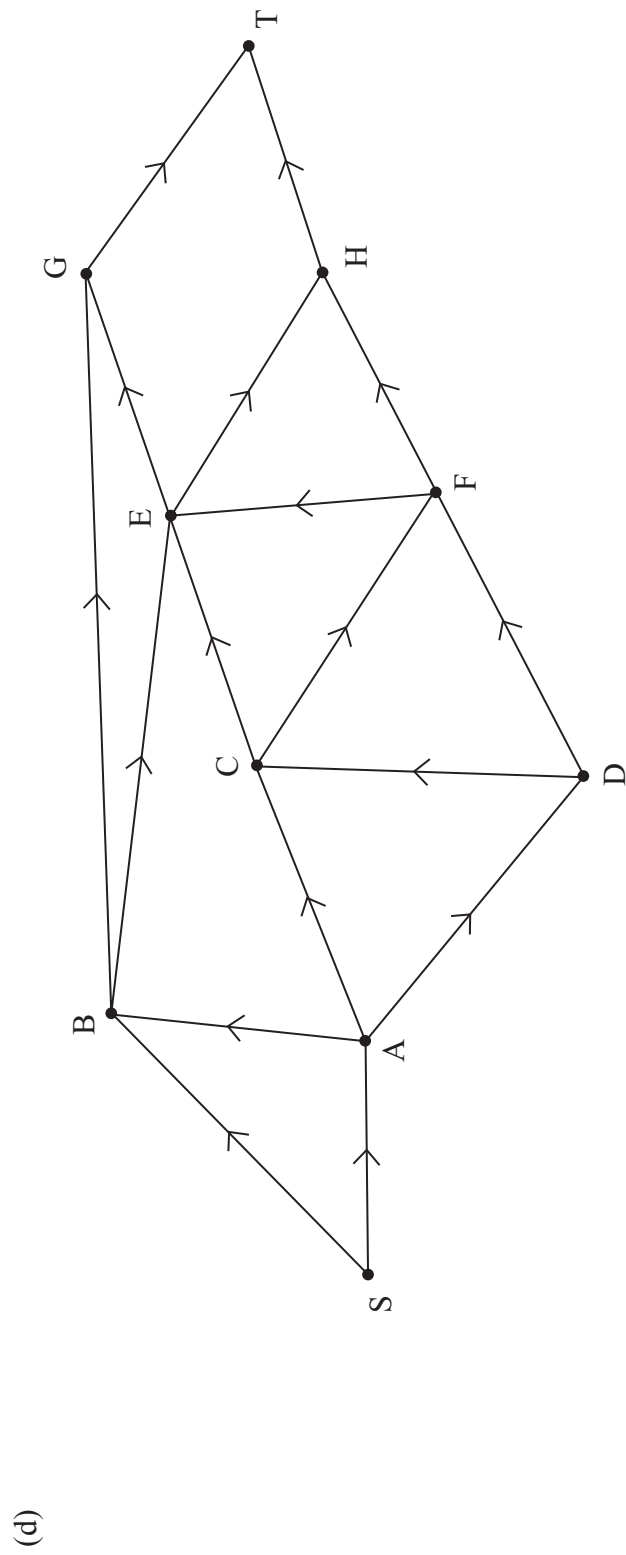


Figure 2

(Total 14 marks)

Q5



Leave blank

6. (a) _____

(b)

Basic variable	x	y	z	r	s	t	Value
r	16	2	4	1	0	0	350
s	18	-2	6	0	1	0	480
t	5	0	5	0	0	1	360
P	-18	-7	-20	0	0	0	0

You may not need to use all of these tableaux

b. v.	x	y	z	r	s	t	Value	Row Operations

b. v.	x	y	z	r	s	t	Value	Row Operations

b. v.	x	y	z	r	s	t	Value	Row Operations



Leave blank

b. v.	x	y	z	r	s	t	Value	Row Operations

b. v.	x	y	z	r	s	t	Value	Row Operations

b. v.	x	y	z	r	s	t	Value	Row Operations

(c) _____

Q6

(Total 14 marks)



Leave blank

Month	January	February	March	April	May
Number of robots made					

Cost _____

(Total 14 marks)

Q7

TOTAL FOR PAPER: 75 MARKS

END



BLANK PAGE

