

1.

Lined writing area for question 1.

Q1

(Total 2 marks)

Candidates are reminded they must complete their answers in blue or black ink or pencil.

2.

Lined writing area for question 2.





Lined writing area for the answer.

Q2

(Total 7 marks)





3.

You may not need to use all of these rows.
It may not be necessary to complete all boxes in each row.

<i>A</i>	<i>x</i>	<i>y</i>	<i>x</i> even?	<i>x</i> = 0 ?

A = _____

(Total 9 marks)

Q3





4.

Lined writing area for the answer to question 4.

Q4

(Total 7 marks)



5.

	<i>M</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
<i>M</i>	-	215	170	290	210	305
<i>A</i>	215	-	275	100	217	214
<i>B</i>	170	275	-	267	230	200
<i>C</i>	290	100	267	-	180	220
<i>D</i>	210	217	230	180	-	245
<i>E</i>	305	214	200	220	245	-

(a)

(b)

M

•

A

•

E

•

B

•

D

•

C

•

Diagram 1



(c) Weight = _____

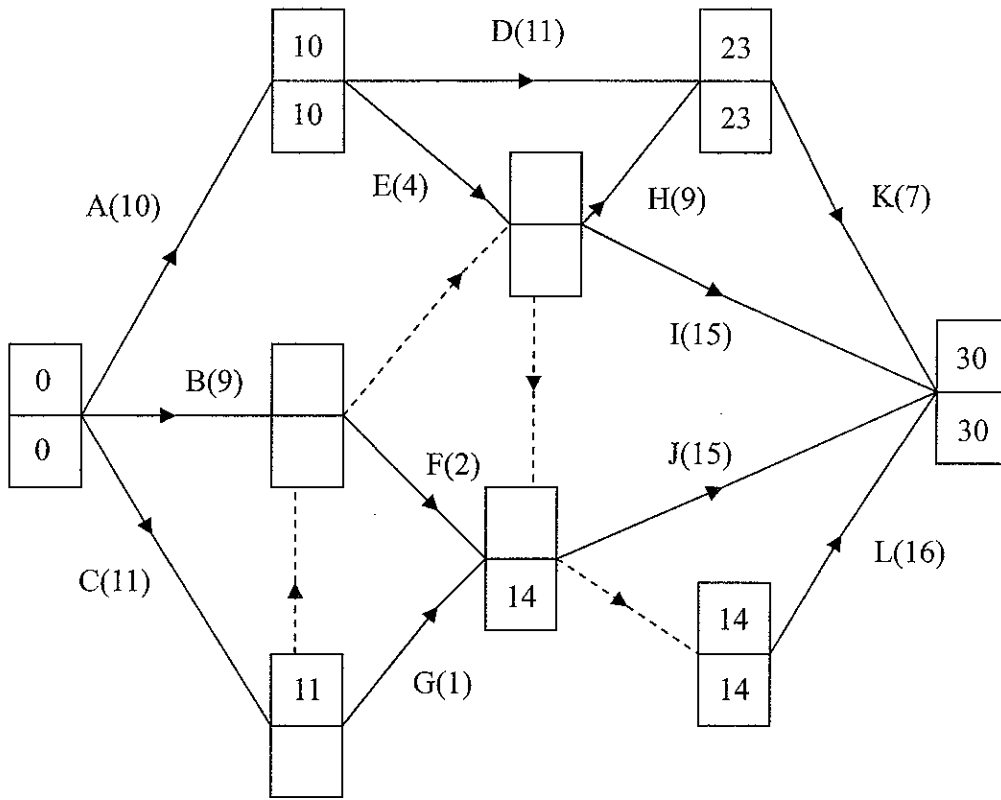
(d) _____

(Total 7 marks)

Q5



6. (a)



KEY

Early event time
Late event time

Diagram 2



Handwriting practice area with 15 horizontal lines.

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32

Number line grid with 16 vertical columns and 15 horizontal rows.

(Total 15 marks)

Q6

--	--



7. (a)

(b)

(c)

You may not need to use all of these tableaux

basic variable	x	y	z	r	s	t	Value
r	12	4	5	1	0	0	246
s	9	6	3	0	1	0	153
t	5	2	-2	0	0	1	171
P	-2	-4	-3	0	0	0	0

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



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

(d) $P =$ _____

$x =$ _____ $y =$ _____ $z =$ _____

$r =$ _____ $s =$ _____ $t =$ _____

(e) _____

(Total 18 marks)

Q7



8. (a) Initial flow = _____
 (b) Capacity of C_1 = _____
 Capacity of C_2 = _____

(c)

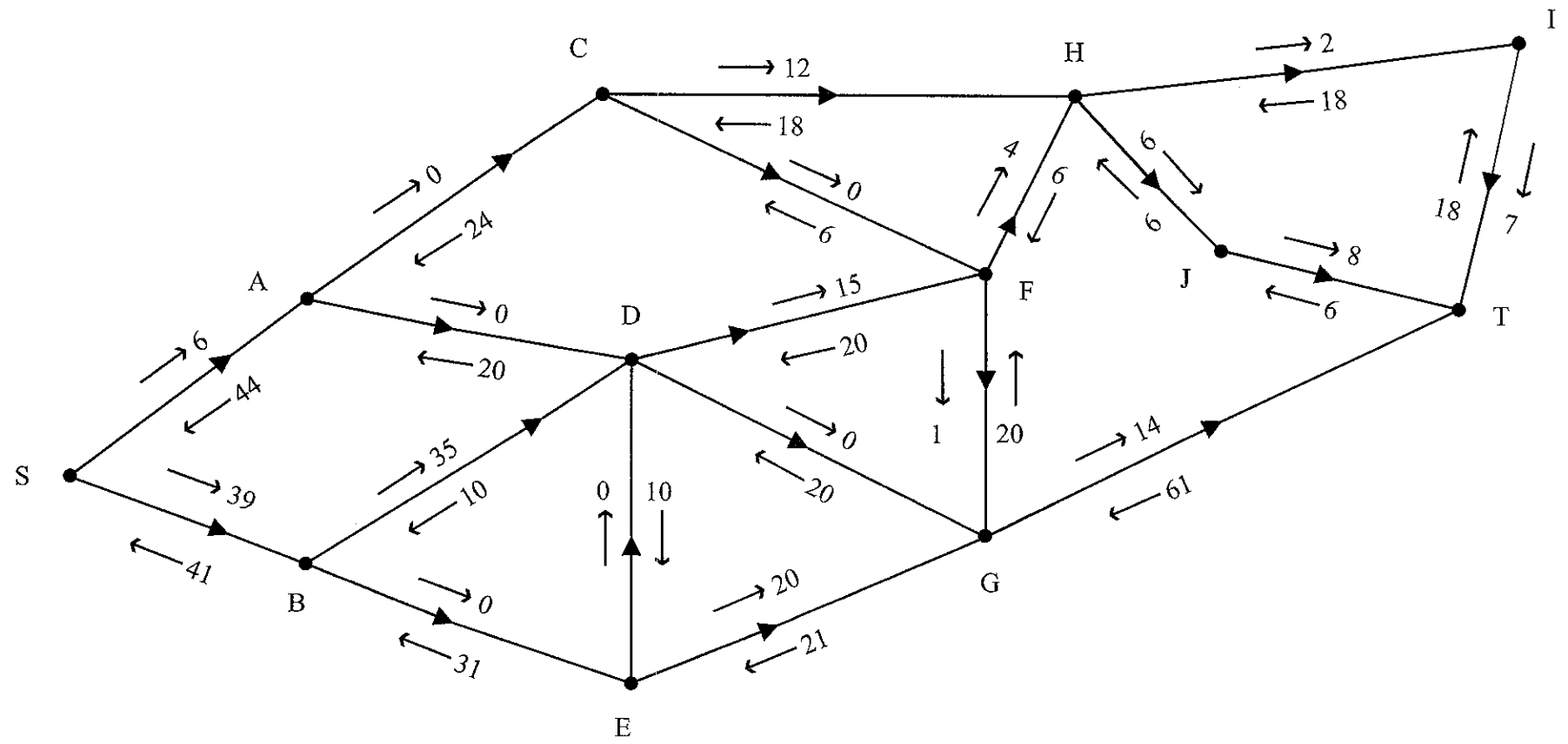


Diagram 3





Blank lined area for writing answers.

Q8

--	--

(Total 10 marks)

TOTAL FOR PAPER: 75 MARKS

END

