Answer Booklet. Paper Reference: 6689/01

Paper Reference(s)

6689

Edexcel GCE

Decision Mathematics D1
Advanced/Advanced Subsidiary

May 2002

Answer Booklet

N9978

1. ....

2. ....

3.

4. (*a*)

B

3

F

3

G

5

I

12 5 6

2

9

10

C 12

15

E

3

H

4

A

D

2
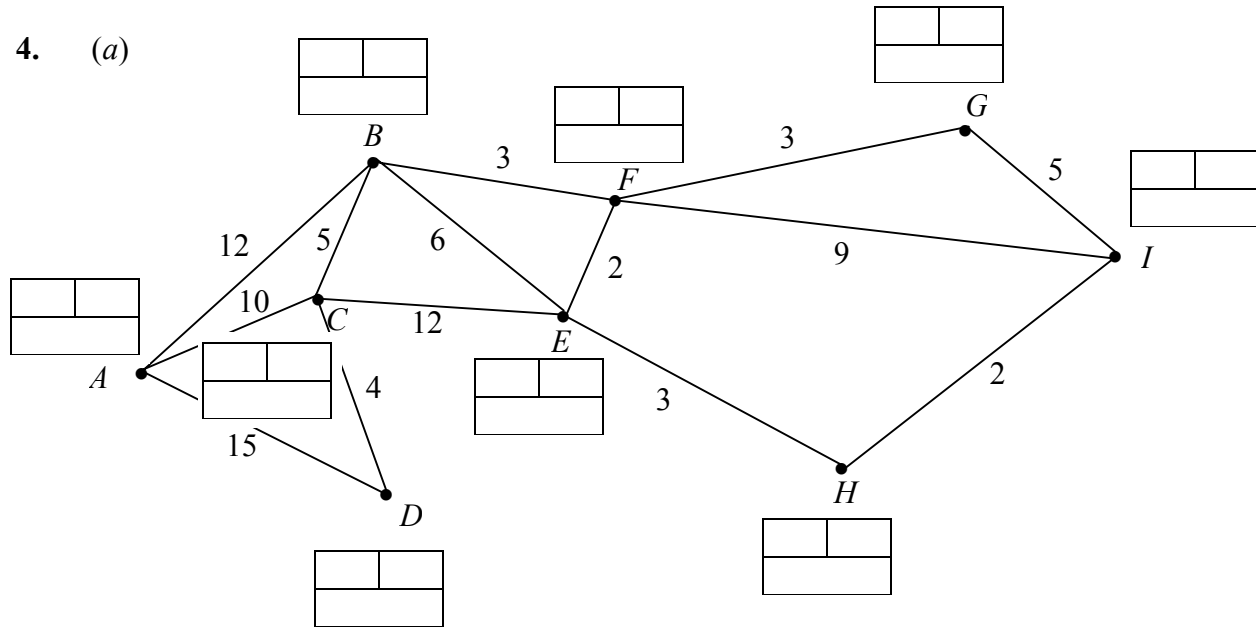
Shortest route ....

Length of shortest route ....

(*b*) (i) ....

....

....

(ii) ....

....

....

....

....

....

....

(iii) ....

....

....

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4

5. (*a*)

a	*b*	*c*	*d*	*e*	*f*	*f* = 0?

(*b*) ....

....

....

....

(*c*) ....

....

....

6. (*a*) Critical activities ....

Length of critical path ....

(*b*) Total floats of remaining non-critical activities

_____

_____

_____

(*c*)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

(*d*)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

Minimum number of workers ....

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7. (*a*) **Diagram 1**

Capacity of arcs added ....

....

....

....

(*b*) (i) Maximum flow along $SF_1ABR = $ ....

$SF_3CR = $ ....

(ii) **Diagram 2**

(*c*) (i)

Diagram 3

A

F_1

B

R

F_2

S

C
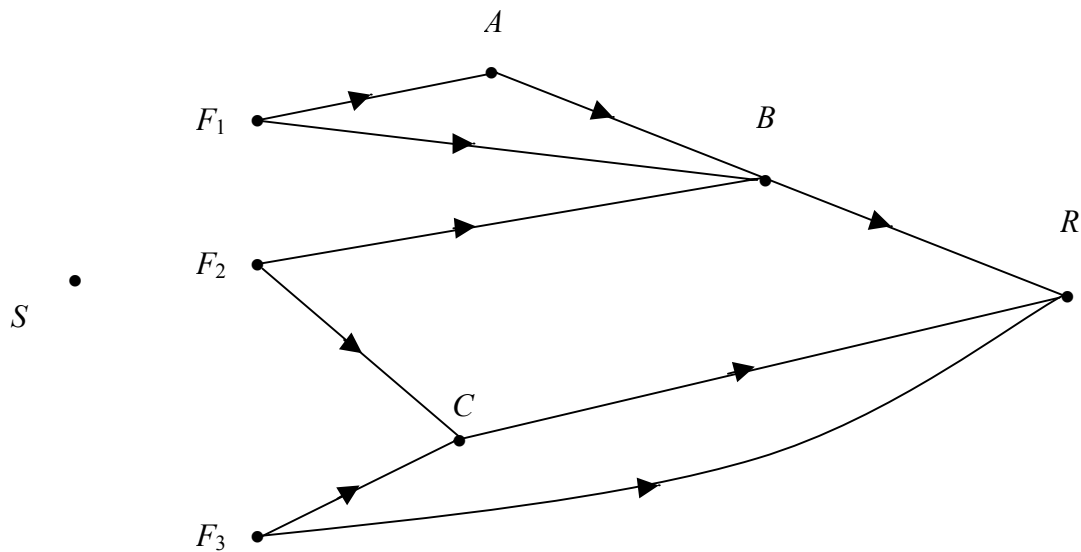
F_3
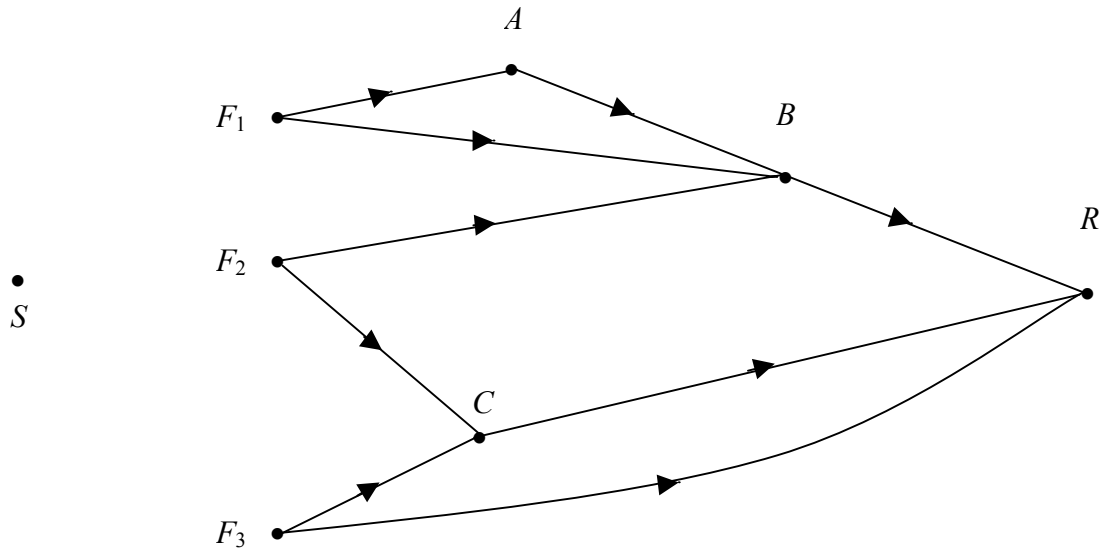
Flow augmenting paths ....

....

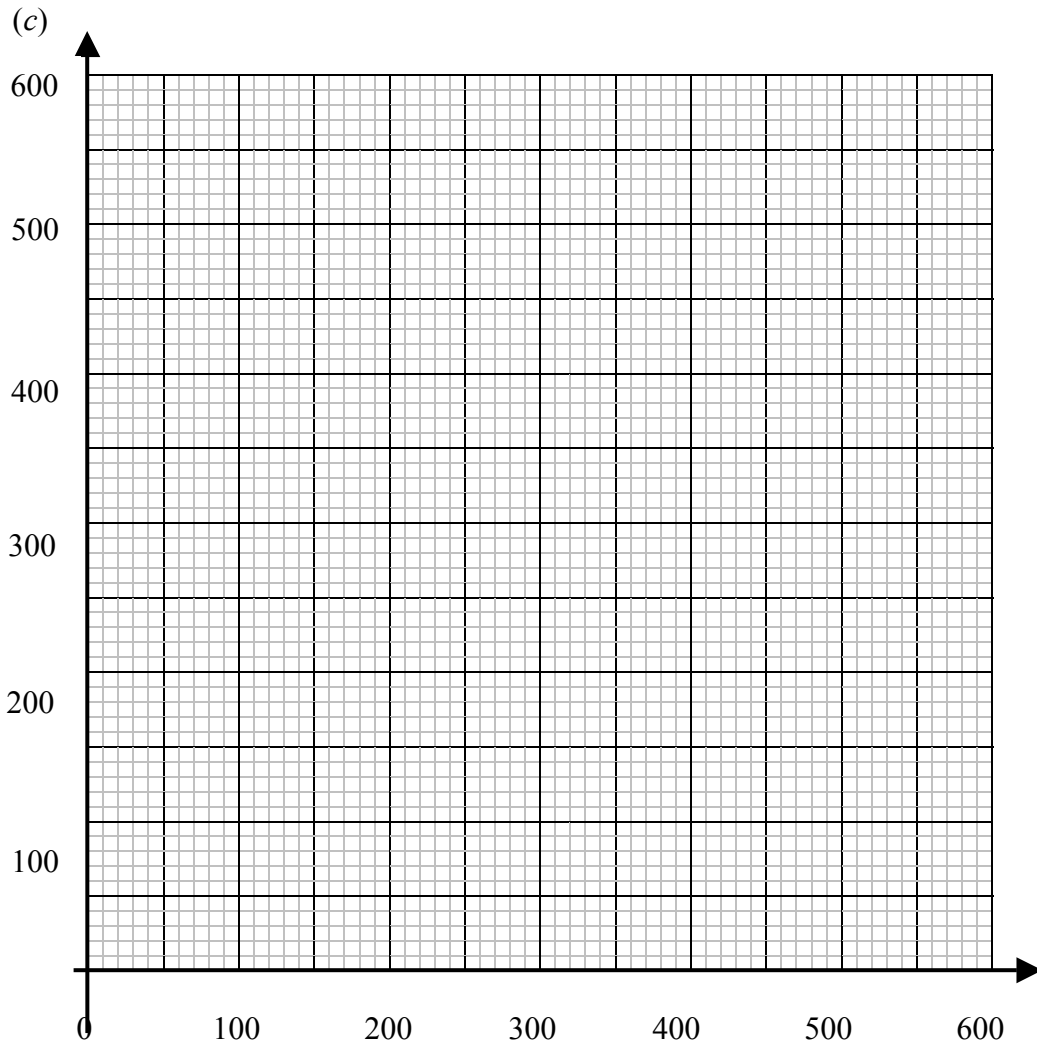...

....

(ii) ....

....

....

8. (*a*)

(*b*)

(*c*)

Optimal value of *x*………..   Optimal value of *y*……….. Total cost £……….

(*d*) _____

....

....

....

....

END

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