



# Interactive Example Candidate Responses

Paper 4 (May / June 2016), Question 11

**Cambridge IGCSE™**  
**Physics 0625**



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- 11 (a) (i) Fig. 11.1 shows the symbol for a logic gate and its truth table.



input A	input B	output
0	0	0
1	0	0
0	1	0
1	1	1

Fig. 11.1

State the name of this logic gate.

.....AND Gate.....[1]

- (ii) Complete the truth table for the logic gate shown in Fig. 11.2.



input A	input B	output
0	0	1
1	0	0
0	1	0
1	1	0

Fig. 11.2

- (b) Fig. 11.3 shows the system of logic gates used to ensure the security of the strongroom of a bank.

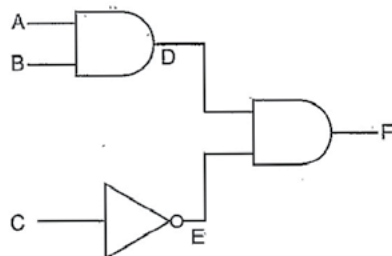


Fig. 11.3

The strongroom door will only open when the output F is logic 1.

Complete the table to show the logic states at A, B, C, D and E when the strongroom door can be opened.

input A	input B	input C	output D	output E	output F
1	1	1	1	1	1

[3]

[Total: 6]

Select  
page

Your  
Mark

11(a)(i)

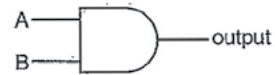
11(a)(ii)

11(b)

**Q11 Mark scheme**

(a)(i)	AND (gate)												
(a)(ii)	001 100 010 110												
(b)	<table><tr><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td></tr><tr><td>1</td><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td></tr></table>	A	B	C	D	E	F	1	1	0	1	1	1
A	B	C	D	E	F								
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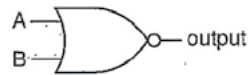
input A	input B	output
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0	1	1
1	1	1

Fig. 11.2

[2]

(b) Fig. 11.3 shows the system of logic gates used to ensure the security of the strongroom of a bank.

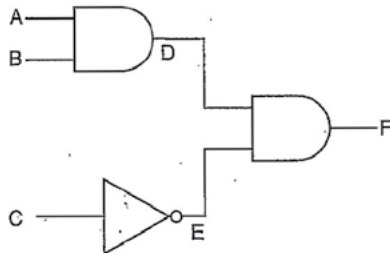


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Complete the table to show the logic states at A, B, C, D and E when the strongroom door can be opened.

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[3]

[Total: 6]

Your  
Mark

11(a)(i)

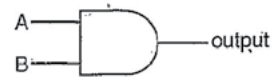
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(b)	<table><tr><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td></tr><tr><td>1</td><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td></tr></table>	A	B	C	D	E	F	1	1	0	1	1	1
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1	1	1

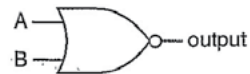
Fig. 11.1

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AND

[1]

(ii) Complete the truth table for the logic gate shown in Fig. 11.2.



input A	input B	output
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1	0	1
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1	1	0

Fig. 11.2

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(b) Fig. 11.3 shows the system of logic gates used to ensure the security of the strongroom of a bank.

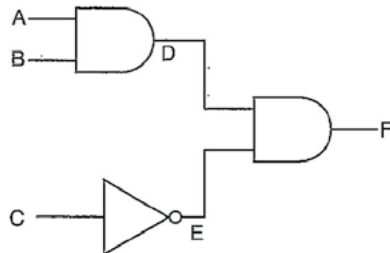


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