QUESTION 9

How many 512 x 16 RAM chips are needed to provide a memory capacity of 2 kilo Bytes?

- 4
- 16
- 8
- 2 ✓
- None

$$(2 \cdot 2^{10}\ \text{B})\left(\frac{8\ \text{bit}}{1\ \text{B}}\right) = 16384\ \text{bit}$$

$$(512)(16)\,y = 16384 \implies y = 2$$

Question 5

1 points | Save Answer

Suppose 8-bit registers **R1** = 1010 0111, R2 = 0001 0101, where 2's complement signed number system is used. What will be the content of R3 after the micro-operations: R3 ← R1 ∧ R2?

R3 = [A]

00000101

10100111
AND 00010101
R_3 = 00000101

⚠ Moving to another question will save this response.

« ‹ Question **5** of **10** › »

Close Window

Remaining Time: 34 minutes, 58 seconds.

Question Completion Status:

QUESTION 1

1 points

A digital computer has a common bus system for 16 registers of 32 bit each. The bus is constructed with multiplexers. How many selection inputs are there in each multiplexer?

- 5
- 2
- 3
- 4 ✓
- None

32 muxs

16 to 1 mux

$2^4 = 16$

QUESTION 2

1 points

Question Completion Status:

QUESTION 2

1 points

The content of a 8-bit register is initially 11101101. The register is shifted 2 times to the right with the serial input being 0 and 1 respectively. What is the content of the register after each shift operation?:

After first shift 01110110 ✓

After second shift 10110110 ✗

10111011

10111010

QUESTION 3

1 points

Suppose 8-bit registers **R1** = 1010 0111, R2 = 0001 0101, where 2's complement signed number system is used. What will be the content of R3 after the micro-operations: R3 ← R1 - R2?

R3 = [A]

10010010

$R_1 = 10100111$

$-R_2 = 11101011$ +

$R_3 = 10010010$

Question 10

1 points Save Answer

What are the roles of the direct inputs (PS and PR) in a flip-flop?

Arial 3 (12pt)

They are used to initialize the flip-flop

Path: p » span Words:0

Click **Submit** to complete this assessment.

Question **10** of **10**

Question 3

1 points | Save Answer

Suppose 8-bit registers **R1** = 0001 0101, R2 = 1010 0111, where 2's complement signed number system is used. What will be the content of R3 after the micro-operations: R3 ← R1 - R2?

R3 = [A]

01101110

$R_1 = 00010101$

$-R_2 = 01011001$ +

$R_3 = 01101110$

⚠ Moving to another question will save this response.

« ‹ Question **3** of **10** › »

Close Window

Question 9

1 points | Save Answer

How many 256 x 16 RAM chips are needed to provide a memory capacity of 4 kilo Bytes?

- None
- 2
- 16
- 4
- 8 ✓

$\hookrightarrow (4 \cdot 2^{10}\ B)\left(\frac{8\ bit}{1\ B}\right) = 32768$

$(256 \cdot 16)y = 32768 \implies y = 8$

⚠ Moving to another question will save this response.

« ‹ Question **9** of **10** › »

Close Window

Question 6

1 points Save Answer

The content of a 8-bit register is initially 11101101. The register is shifted 2 times to the left with the serial input being 1 and 0 respectively. What is the content of the register after each shift operation?:

After first shift 11011011

After second shift 10110110

Moving to another question will save this response.

Question 6 of 10

Close Window

Moving to another question will save this response.

Question 5

What are the roles of the direct inputs (PS and PR) in a flip-flop?

For the toolbar, press ALT+F10 (PC) or ALT+FN+F10 (Mac).

T T T Arial 3 (12pt)

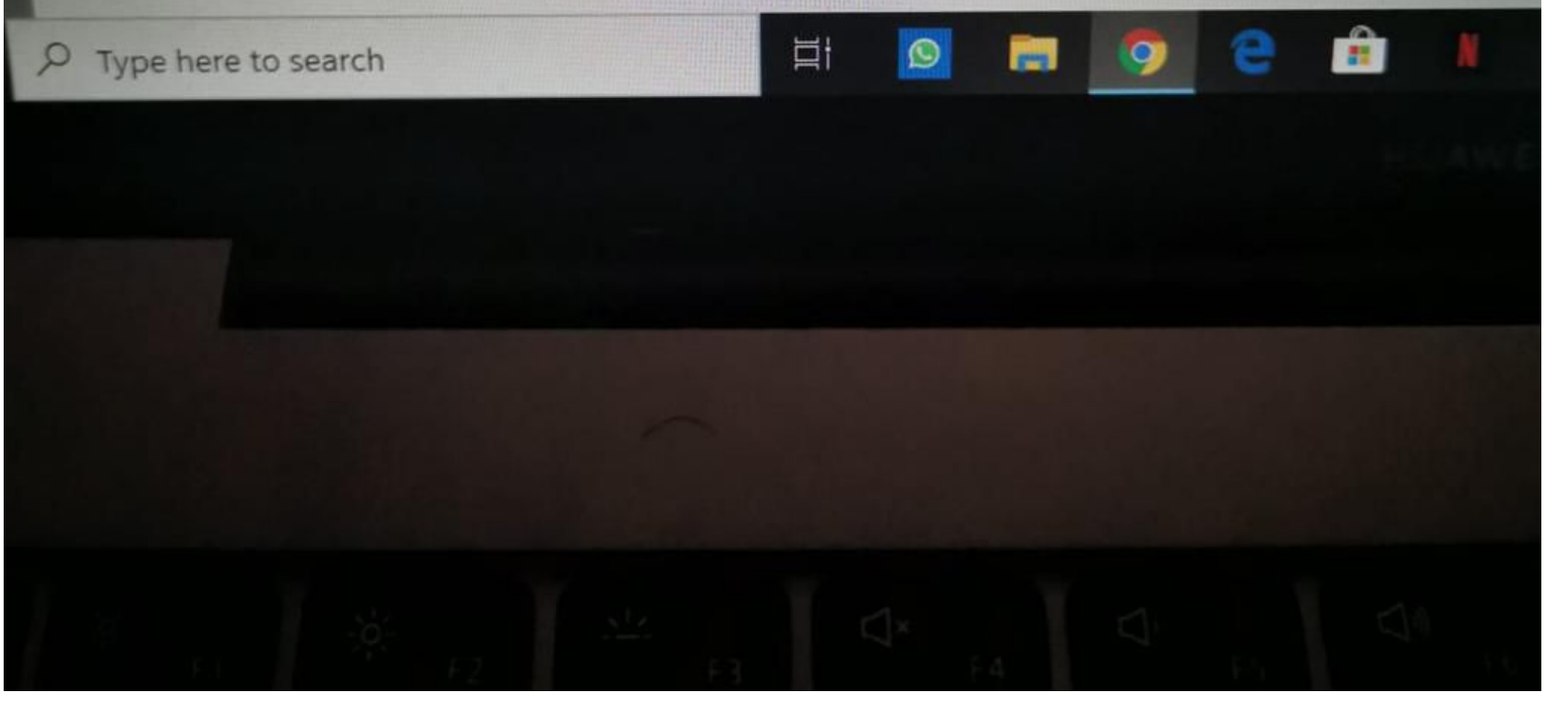
QUESTION 10

We want to design a Hex to binary encoder.

How many inputs are there? 16

How many outputs are there? 4

Click Save and Submit to save and submit. Click Save All Answers to save all answers.



Close Window

Moving to another question will save this response.

Question 4 of 10

Question 4

1 points Save Answer

What are the roles of the direct inputs (PS and PR) in a flip-flop?

T T T Arial 3 (12pt)

Words: 0

Path: p

Type here to search

QUESTION 7

5 selections

We want to implement a Boolean function F(A, B, C, D, E) with a multiplexer.

What will be the size of the multiplexer? 2^5 to 1 $\Rightarrow$ 32 to 1

How many selection inputs are there? 5

QUESTION 8

How many 512 x 16 RAM chips are needed to provide a memory capacity of 2 kilo Bytes?

- None
- 4
- 8
- 2 ✓
- 16

$(2 \cdot 2^{10}\ B)(8\ bit) = 16384$

$(512 \cdot 16)\, y = 16384 \Rightarrow y = 2$

QUESTION 9

A digital computer has a common bus system for 16 registers of 32 bit each. The bus is constructed with m
there in each multiplexer?

- 2

Click Save and Submit to save and submit. Click Save All Answers to save all answers.

Type here to search

32 muxs

16 to 1 mux

$2^4 = 16$

4 selections

Moving to another question will save this response.

Question 8

1 point

Determine the output frequency for a frequency division circuit that contains 2 flip-flops with an input clock frequency of 20.48 MHz.

I. 5.12 kHz

II. 10.24 kHz

III. None

IV. 10.12 MHz

V. 5.12 MHz ✓

$$\frac{20.48}{2^2} = 5.12$$

Type here to search

Less than five minutes remain.

Close Window

Moving to another question will save this response.

Question 5 of 10

Question 5

1 points Save Answer

A digital computer has a common bus system for 32 registers of 16 bit each. The bus is constructed with multiplexers. How many selection inputs are there in each multiplexer?

- None
- 4
- 5
- 3
- 2

16 muxs

32 to 1 mux

$2^5 = 32$

5 selections

Moving to another question will save this response.

Question 5 of 10

here to search

Question 1

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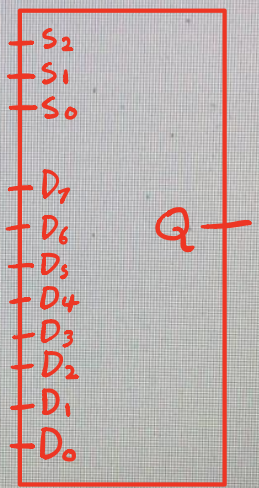
For 8 X 1 multiplexer, Nor of selection input is----------

- 2
- 4
- 1
- 3

$2^3 = 8$

3 selections

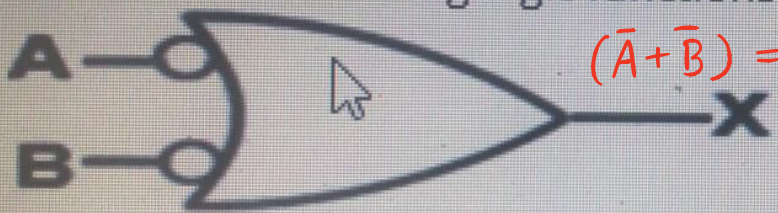


⚠ Moving to the next question prevents changes to this answer.

Moving to the next question prevents changes to this answer.

Question 9

Which of the following logic functions is illustrated by following figure



$(\bar{A}+\bar{B}) = (\overline{AB})$

- XOR ✗
- NOR ✗
- AND ✗
- NAND ✓

Question 3

1 points | Save Answer

Suppose 8-bit registers **R1 =** 0001 0101, R2 = 1010 0111, where 2's complement signed number system is used. What will be the content of R3 after the micro-operations: R3 ← R1 - R2?

R3 = [A]

01101110

$R_1 = 00010101$

$-R_2 = 01011001$ +

$R_3 = 01101110$

⚠ Moving to another question will save this response.

Close Window

QUESTION 2

1 points Save Answer

Suppose 8-bit registers **R1** = 0001 0101, R2 = 1010 0111, where 2's complement signed number system is used. What will be the content of R3 after the micro-operations: R3 ← R1 ⊕ R2?

R3 = [A]

10110010

00010101
XOR 10100111
R_3 = 10110010

Question 1

5 selections

1 points ✔ Saved

We want to implement a Boolean function F(A, B, C, D, E) with a demultiplexer.

What will be the size of the demultiplexer? 5 ✔

How many selection inputs are there? 32 $2^5 = 32$ ✔

⚠ Moving to another question will save this response.

Question 1 of 10

Close Window

Question 5

1 points Save Answer

Suppose 8-bit registers **R1 =** 1010 0111, R2 = 0001 0101, where 2's complement signed number system is used. What will be the content of R3 after the micro-operations: R3 ← R1 ∧ R2?

R3 = [A]

00000101

10100111
AND 00010101
00000101

⚠ Moving to another question will save this response.

« ‹ Question **5** of **10** › »

Close Window

⚠ Moving to another question will save this response.

Question 1

How many flip-flops are required to construct an asynchronous MOD-200 counter?

- 10
- None
- 4
- 8
- 6

$2^8 = 256$

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Remaining Time: 31 minutes, 36 seconds.

Question Completion Status:

⚠ Moving to another question will save this response.

Question 1

What are the roles of the direct inputs (PS and PR) in a flip-flop?

T T T Arial 3 (12pt) T

Path: p

⚠ Moving to another question will save this response.

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Question 2

1 points | Save Answer

A digital computer has a common bus system for 32 registers of 16 bit each. The bus is constructed with multiplexers. How many selection inputs are there in each multiplexer?

- 3
- 5 ✓
- None
- 4
- 2

16 muxs

32 to 1 mux

$2^5 = 32$

5 selections

⚠ Moving to another question will save this response.

Question 4

1 points Saved

How many flip-flops are required to construct an asynchronous MOD-200 counter?

- (•) 6
- ( ) 8
- ( ) 10
- ( ) 4
- ( ) None

⚠ Moving to another question will save this response.

Question 4 of 10

Close Window

QUESTION 10

5 selections

We want to implement a Boolean function F(A, B, C, D, E) with a multiplexer.

What will be the size of the multiplexer? 32 to 1

How many selection inputs are there? 5

Question 7

1 points Save Answer

We want to design a decimal to BCD encoder.

How many inputs are there? 10

How many outputs are there? 4

⚠ Moving to another question will save this response.

Close Window