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g question

Find the answer for the following binary multiplication.

$$11100011 \times 101$$

Select one:

- 10001101111
- 11111111001
- 10101100000
- 010010100110
- None of the above.

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Simplify the following boolean expression.

$$\overline{A} \overline{B} \overline{C} + A \overline{B} \overline{C} + \overline{A} \overline{B} \overline{C} + \overline{A} \overline{B} \overline{C}$$

Select one:

$$\bar{A}\bar{B}\bar{C}$$

$$\bar{B}\bar{C}$$

$$(\bar{A} + \bar{B})\bar{C}$$

---

$$(A + \bar{B})\bar{C}$$

None of the above





21

answered  
out of

question

Convert the number  $1061_8$  to equivalent decimal numbers.

Select one:

- 561
- 692
- 298
- 332
- None of the above.



Question 22

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Flag question

$$A = 101010111 + 100010$$

Find the 2's Complement of A.

(No spaces should be there in your answer)

Answer:

010000111

on 23  
t answered  
d out of  
g question

Simplify the following boolean expression.

$$ABC + \overline{A} B + ABC\overline{C}$$

Select one:

A

B

AB

BC

None of the above



**Question 19**

Not yet answered

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Flag question

Convert the number  $273.25_{10}$  to the equivalent binary number.

Select one:

- 100010001.01
- 100010001.111
- 100101100.11
- 1111101.001
- None of the above.

20  
Answered  
out of  
question

Find the answer for the following binary multiplication.

$$11100011 \times 101$$

Select one:

- 10001101111
- 11111111001
- 10101100000
- 010010100110
- None of the above.

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Find the value of the following definite integral.

$$\int_0^3 |3t - 5| dt$$

Select one:

- 20
- 30/6
- 41/6
- 42/6
- None of the above





Find the value of the following definite integral:

$$\int_{1}^{4} |3x - 6| \, dx$$

Select one:

- 15/2
- 7/2
- 0
- 12/4
- None of the above

The inverse of function

$$f(x) = x^3 + 2 \quad \text{is } \underline{\hspace{2cm}}$$

Select one:

$f^{-1}(x) = (x - 2)^{1/2}$

$f^{-1}(x) = (x - 2)^{1/3}$  ✓

$f^{-1}(x) = x^{1/3}$

$f^{-1}(x) = x - 2$

None of the above



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question

Find the value of the following definite integral.

$$\int_0^3 |3t - 5| dt$$

Select one:

20

30/6

41/6

42/6

None of the above



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question

The inverse of function  $f(x) = x^3 + 2$  is \_\_\_\_\_.

Select one:

- $f^{-1}(x) = (x - 2)^{1/3}$
- $f^{-1}(x) = (x - 2)^{1/2}$
- $f^{-1}(x) = x^{1/3}$
- $f^{-1}(x) = x - 2$
- None of the above

**Question 4**

Not yet answered

Marked out of  
1.00

A blue circular icon containing a white flag-like shape, with the text "Flag question" next to it.

Find the value of the following definite integral.

$$\int_{-1}^1 \frac{x^2 - \sqrt{25x^2}}{x} dx$$

Select one:

- 10
- 10
- 0
- 1
- None of the above

Select the suitable answer for each blank.

Proof:  $a(a + b)$

$$= (a+0)(a + b) \quad |(1) \text{ Ide}$$

$$= a+0\cdot b \quad |(2) \text{ distri}$$

$$= a + 0 \quad |(3) \text{ domi}$$

$$= a \quad |(4) \text{ identity}$$

Answer 1 Identity Law

Answer 2 Choose...

Answer 3 Choose...

Answer 4 Choose...

- Identity Law
- IdentityLaw
- Inverse Law
- De Morgan's Law
- Commutative Law
- Universal Bound Law
- Distributive law
- Distributive Law
- Associative Law



Question 18

Not yet answered

Marked out of  
1.00

Flag question

Find the answer for the following binary division.

$$10101010 \div 11$$

Select one:

- Quotient = 1011000 & Remainder = 01
- Quotient = 0111000 & Remainder = 01
- Quotient = 0111000 & Remainder = 10
- Quotient = 1011000 & Remainder = 11
- None of the above.



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Question 22

Not yet answered

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Flag question

$$A = 111011 + 10001010$$

Find the 2's Complement of A.

(No spaces should be there in your answer)

Answer: 00111011 |

3

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of  
estion

Simplify the following boolean expression.

$$\overline{A} \ B \ \overline{C} + A \ \overline{B} \ \overline{C} + \overline{A} \ \overline{B} \ \overline{C} + \overline{A} \ \overline{B} \ \overline{C}$$

Select one:

$$\overline{A} \overline{B} \overline{C}$$

$$\overline{B} \overline{C}$$

$$(\overline{A} + \overline{B}) \overline{C}$$

$$(A + \overline{B}) \overline{C}$$

None of the above

Consider the following function.

$$g: R \rightarrow R \quad g(x) = \frac{(5x - 9)}{2}$$

Find  $g^{-1}(3)$

Hint : Find the inverse of  $g$  and substitute -5.

Answer:

I

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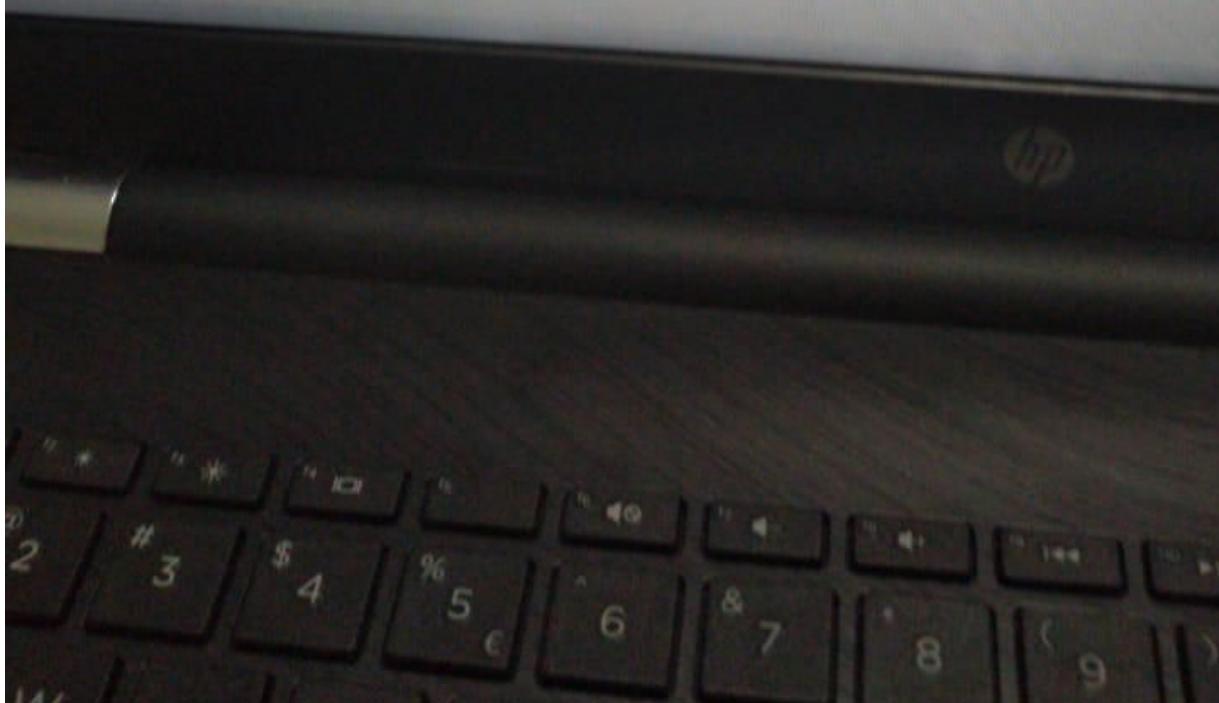
N Refers to all the positive integers. (Called as Natural Numbers)

$$f: N \rightarrow N \quad f(n) = x^4 - 2x + 1$$

Is  $f$  a One to one function? Choose...

Is  $f$  an onto function? Choose...

Does  $f$  has an inverse function? Choose...



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**Question 6**

Not yet answered

Marked out of  
1.00 Flag questionDifferentiate the following function with respect to  $x$ ,

$$(\sqrt{x} - 3)(x^2 - 3x)$$

Select one:

- $\sqrt{x}(5x - 9) - 6x + 9$
- $$\frac{\sqrt{x}(5x - 9) - 16x + 24}{2}$$
- $$\frac{\sqrt{x}(5x - 6) - 16x + 16}{2}$$
- $$\frac{\sqrt{x}(5x - 9) - 12x + 18}{2}$$
- None of the above

**Question 9**

Not yet answered

Marked out of  
1.00 Flag question

Simplify

$$\int (x^3 - 6x + 8) \, dx$$

Select one:

$$\frac{x(x^3 - 12x + 32)}{4} + C$$

$$\frac{x^4}{4} + x^2 + 5x + C$$

$$\frac{x(x^3 - 4x + 12)}{4} + C$$

$$\frac{x(x^3 - 4x - 8)}{4} + C$$

None of the above



Find the dual of the following expression.

$$(a + 0).(b + 1) = a$$

Select one:

- $(a \cdot 1) + (b \cdot 0) = a$
- $(a \cdot 1)(b \cdot 0) = a$
- $(a \cdot 1) + (b \cdot 1) = a$
- $(a \cdot 1) + (b \cdot 0) = b$
- None of the above

Find,

$$\frac{d}{dx} \left[ (\sqrt{x} - 3) (x^2 - 5x) \right]$$

Select one:

$\frac{\sqrt{x}(5x-18)-12x+36}{2}$

$\frac{\sqrt{x}(5x-15)-12x+30}{2}$

$\frac{\sqrt{x}(5x-18)-16x+48}{2}$

$\frac{\sqrt{x}(5x-3)-16x+8}{2}$

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Select the suitable answer for each blank.

Proof:  $a(a + b)$

$$= (a+0)(a + b) \quad |(1)$$

$$= a+0\cdot b \quad (2)$$

$$= a + 0 \quad (3)$$

$$= a \quad (4)$$

Answer 1 Choose... ▾

Answer 2 Choose... ▾

Answer 3 Choose... ▾

Answer 4 Choose... ▾

12

Answered  
out of  
question

Select the suitable answer for each blank.

$$Q = (A + B)(A + C)$$

$$A(A + A.C + A.B + B.C) - \text{Distributive law}$$

$$A + A.C + A.B + B.C$$

- 1 idempotent

$$A(1 + C) + A.B + B.C$$

- Distributive law

$$A.1 + A.B + B.C$$

- 2 domination

$$A(1 + B) + B.C$$

- Distributive law

$$A.1 + B.C$$

- 3 domination

$$Q = A + (B.C)$$

- 4 identity

Answer 1

Choose...

Choose...

De Morgan's Law

Universal Bound Law

Associative Law

Distributive law

Commutative Law

Inverse Law

Idempotent Law

Identity Law



Question 13

Not yet answered

Marked out of

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Flag question

A committee of three individuals decides issues for an organization. Each individual votes either yes or no for each proposal that arises. A proposal is passed if it receives at least two yes votes. Assume that you design a circuit that determines whether a proposal passes. What is the boolean expression which matches the above circuit.

Select one:

$$\bar{X}YZ + X\bar{Y}\bar{Z} + XY\bar{Z} + XYZ$$

$$\bar{X}YZ + X\bar{Y}Z + XY\bar{Z} + XYZ$$

$$\bar{X}Y\bar{Z} + X\bar{Y}\bar{Z} + XY\bar{Z} + XYZ$$

$$\bar{X}Y\bar{Z} + X\bar{Y}\bar{Z} + XY\bar{Z} + \bar{X}YZ$$

None of the above

Next page

Select the suitable answer for each blank.

Proof:  $a(a + b)$

$$= (a+0)(a + b) \quad (1) \text{ be}$$

$$= a+0\cdot b \quad (2) \text{ des}$$

$$= a + 0 \quad (3)$$

$$= a \quad (4) \text{ domi}$$

Answer 1 Choose...

Answer 2 Choose...

Answer 3 Choose...

Answer 4 Choose...

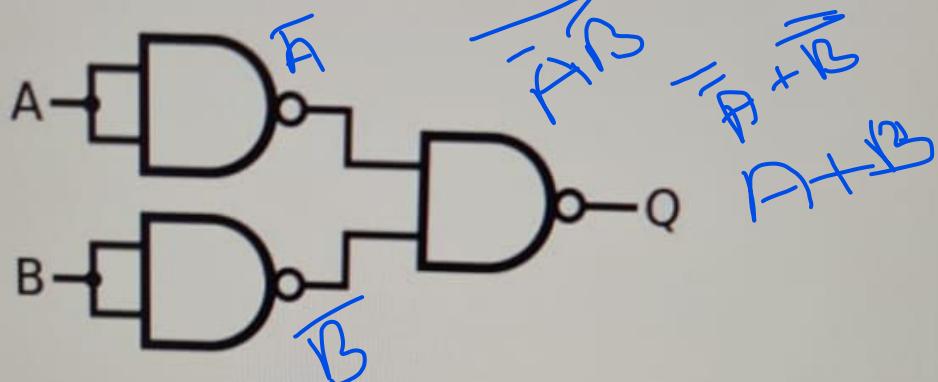
2 3 4 5 6 7 8 9 0

W E R T Y U I O

S D F G H J K L



Following circuit is equivalent to,



Select one:

- OR Gate
- NOR Gate
- NAND Gate
- NOT Gate
- None of the above

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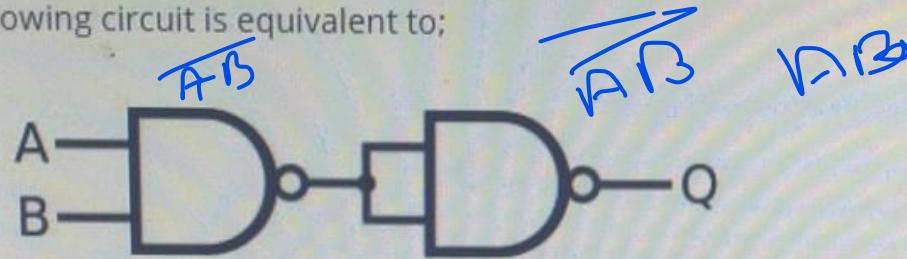
Question 14

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Flag question

Following circuit is equivalent to;



Select one:

- OR Gate
- AND Gate
- NOR Gate
- NAND Gate
- None of the above



Select the Correct Answer.

A variant of Universal Bound Law is,

B + 1 = 1

C + 0 = C

A Variant of Identity Law is,

A . A = A





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**Question 13**

Not yet answered

Marked out of  
1.00

Flag question

A committee of three individuals decides issues for an organization. Each individual votes either yes or no for each proposal that arises. A proposal is passed if it receives at least two yes votes. Assume that you design a circuit that determines whether a proposal passes. What is the boolean expression which matches the above circuit.

Select one:

- $XY + XZ + YZ$
- $XYZ + XZ$
- $XY + XZ$
- $X(Y+Z)$
- None of the above

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9
17

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**Question 17**

Not yet answered

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Flag question

Convert the number  $168_{10}$  to a base 5 number system.

Select one:

- 2200
- 4412
- 1133
- 2002
- None of the above.



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Calculate the 1's complement for the following binary number.

1001101101001

Select one:

- 11101101100011
- 10111111001111
- 111000100110
- 110010010110
- None of the above.



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2

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Question

$$A = 100011 + 10001110$$

Find the 2's Complement of A.

(No spaces should be there in your answer)

Answer:

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Calculate the 1's complement for the following binary number.

1001101101001

Select one:

- 11101101100011
- 10111111001111
- 111000100110
- 110010010110
- None of the above.



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estion

Find the answer for the following binary multiplication.

$$10101010 \times 111$$

Select one:

- 11101101101
- 11111111001
- 10101100000
- 010010100110
- None of the above.



Convert the number  $167_{10}$  to a base 11 positional number system.

Select one:

- 20A
- 812
- 113
- 11B
- None of the above.

142

Module 1 - X G 0 0

**NetExam**  
Sri Lanka Institute of Information Technology

Condition 21  
Not yet attempted  
Marked out of 1.00  
P 1st Question

Convert the number 1010110100<sub>2</sub> to equivalent decimal numbers.

Select one:

561  
 692  
 298  
 332  
 None of the above.

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Convert the number  $221122_3$  to equivalent decimal numbers.

Select one:

- 561
- 692
- 298
- 332
- None of the above.

on 18  
t answered  
d out of  
g question

Find the answer for the following binary division.

$$10101010 \div 10$$

Select one:

- Quotient = 1011000 & Remainder = 00
- Quotient = 01010101 & Remainder = 01
- Quotient = 01010101 & Remainder = 00
- Quotient = 1011000 & Remainder = 10
- None of the above.



$$A = 100011 + 10001110$$

Find the 2's Complement of A.

(No spaces should be there in your answer)

Answer:

0100111

it210

Quiz navigation

Finish attempt ...  
Time left 0:03:22

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NetExam  
Sri Lanka Institute of Information Technology

Question 22  
Not yet answered  
Marked out of 1.00  
Flag question

A = 100011 + 10001110  
Find the 2's Complement of A.  
(No spaces should be there in your answer)

Answer:

Convert the number  $100111.1101_2$  to the equivalent decimal number.

Select one:

- 37.9375
- 39.8125
- 55.3125
- 49.6875
- None of the above.