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**State** Finished

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**Time taken** 14 mins 25 secs

**Grade** 9.00 out of 10.00 (90%)

Question **1**

Correct

Mark 1.00 out of 1.00

**Simplify  $Y = AB' + (A' + B)C$**

Select one:

- ☒ a.  $AB' + C$  ✓
- ☐ b.  $A'B + AC'$
- ☐ c.  $AB + AC$
- ☐ d.  $AB + A$

The correct answer is:  $AB' + C$

Question **2**

Correct

Mark 1.00 out of 1.00

**Convert the binary number  $(01011.1011)_2$  into decimal.**

Select one:

- ☐ a.  $(11.5874)_{10}$
- ☐ b.  $(10.7893)_{10}$
- ☒ c.  $(11.6875)_{10}$  ✓
- ☐ d.  $(10.9876)_{10}$

The correct answer is:  $(11.6875)_{10}$

Question **3**

Correct

Mark 1.00 out of 1.00

**One of De Morgan's theorems states that . Simply stated, this means that logical difference between**

Select one:

- ☒ A. a NAND and an OR gate with inverted inputs. ✓
- ☐ B. a NOR and a NAND gate with inverted inputs.
- ☐ C. an AND and a NOR gate with inverted inputs.
- ☐ D. a NOR and a AND gate with inverted inputs.

The correct answers are: a NAND and an OR gate with inverted inputs., an AND and a NOR gate with inverted inputs., a NOR and a NAND gate with inverted inputs., a NOR and a AND gate with inverted inputs.

Question **4**

Correct

Mark 1.00 out of 1.00

Let the representation of a number in base 3 be 210. What is the hexadecimal representation?

Select one:

- ☒ a. 15 ✓
- ☐ b. D2
- ☐ c. 21
- ☐ d. 528

The correct answer is: 15

Question **5**

Incorrect

Mark 0.00 out of 1.00

If  $(1011)_3 = (111)_x$  then what is the value of  $x$ ?

Select one:

- ☐ a. 5
- ☒ b. 3 ✗
- ☐ c. 2
- ☐ d. 4

The correct answer is: 5

Question **6**

Correct

Mark 1.00 out of 1.00

The decimal equivalent of the octal number  $(645)_8$  is \_\_\_\_\_.

Select one:

- ☐ a.  $(451)_{10}$
- ☐ b.  $(501)_{10}$
- ☐ c.  $(450)_{10}$
- ☒ d.  $(421)_{10}$  ✓

The correct answer is:  $(421)_{10}$

Question **7**

Correct

Mark 1.00 out of 1.00

Decimal 43 in Hexadecimal and BCD Number system respectively

Select one:

- ☒ a. 2B,0100 0011 ✓
- ☐ b. B2,0100 0100
- ☐ c. B2,0100 0011
- ☐ d. 2B,0011 0100

The correct answer is: 2B,0100 0011

Question **8**

Correct

Mark 1.00 out of 1.00

11001,1001 and 111001 correspond to the 2's complement representation of which following number set.

Select one:

- ☒ a. -7,-7 and -7 ✓
- ☐ b. -6,-6 and -6
- ☐ c. -25, -9 and -57 .
- ☐ d. 25,9 and 57

The correct answer is: -7,-7 and -7

Question **9**

Correct

Mark 1.00 out of 1.00

Complement of the expression  $A'B + CD'$  is

Select one:

- ☐ a.  $(A' + B)(C' + D)$
- ☐ b.  $(A' + B)(C' + D)$
- ☐ c.  $(A + B')(C + D')$
- ☒ d.  $(A + B')(C' + D)$  ✓

The correct answer is:  $(A + B')(C' + D)$

Question **10**

Correct

Mark 1.00 out of 1.00

If x and y are two decimal digits and  $(0.1101)$  base 2 =  $(0.8xy5)$  base 10. The de is \_\_\_\_\_

Select one:

- ☐ a. 2
- ☒ b. 3 ✓
- ☐ c. 6
- ☐ d. 4

The correct answer is: 3

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