Started on	Thursday, 7 December 2023, 6:00 PM
State	Finished
Completed on	Thursday, 7 December 2023, 6:28 PM
Time taken	28 mins 4 secs
Grade	**11.00** out of 12.00 (**91.67**%)

Question **1**

Complete

Mark 1.00 out of 1.00

Carry out the following conversion $(43.875)_{10} = (?)_2$

a. 1010110.111

b. 101011.111

c. 101001.0111

d. 101010.111

e. 101011.0111

Question **2**

Complete

Mark 1.00 out of 1.00

Find canonical SOP of the standard function:

F(x,y,z) = xy`+yz`

- a. $\sum$**(2,4,5,6)**
- b. None
- c. $\sum$**(0,1,3,7)**
- d. $\prod$**(0,1,3,6,7)**
- e. $\prod$**(2,4,5,6)**

Question **3**

Complete

Mark 1.00 out of 1.00

What's the corresponding decimal value of the unsinged binary number?

$(11111101110.000111)_2$

- a. 2030.109375
- b. 2021.108375
- c. 2041.008375
- d. 2031.109375
- e. 2031.008375

Question **4**

Complete

Mark 1.00 out of 1.00

Assume that $F(A,B,C)$ = Π(1,2,3,6) and $G(A,B,C)$ = Σ(0, 2, 4, 6), The expression of the function $F`.G$ as a sum-of-minterms is

Select one:

- a. m2+m7
- b. m2+m6
- c. m1+m2
- d. m1+m6
- e. m2+m4

Question **5**

Complete

Mark 1.00 out of 1.00

Find the complement of the function in minterm list form:

F(x,y,z) = x`y`+ yz+ xz`

- a. $\prod$(2,5)
- b. None
- c. $\prod$(0,1,3,4,6,7)
- d. $\sum$(2,5)
- e. $\sum$(0,1,3,4,6,7)

Question **6**

Complete

Mark 1.00 out of 1.00

What's the complement of **F(A,B,C)= ∏(0)**

As a sum of products

- a. Σ(1,2,3,4,5,6,7)
- b. Σ(0)
- c. A+B+C
- d. A`+B`+C`
- e. **∏(1,2,3,4,5,6,7)**

Question **7**

Complete

Mark 1.00 out of 1.00

Using algebraic manipulations Simplify the following expression to a minimal number of literals:

A+ A`B+ B`

Select one:

- a. AB
- b. A`
- c. 1
- d. 0
- e. A

Question **8**

Complete

Mark 1.00 out of 1.00

Perform the following operation:

$(32)_{BCD} + (9)_{BCD}$

- a. 0100 0001
- b. 11011
- c. 0001
- d. 0001 1011

Question **9**

Complete

Mark 1.00 out of 1.00

Perform the following operation (+15) – (+7), the result of the operation and carry values, respectively, are?

- a. Result= 11000, Carry= 0
- b. Result= 01000, Carry= 1
- c. Result= 01000, Carry= 0
- d. Result= 11000, Carry= 1

Question **10**

Complete

Mark 1.00 out of 1.00

Perform the following operation $(101101)_2$ - $(110110)_2$ = (? $)_2$, using 6-bit 2's complement representation?

a. 100011

b. 110110

c. 1100011

d. 110111

Question **11**

Complete

Mark 1.00 out of 1.00

Find the complement of the function in maxterm list form:

F(a,b,c)= $\prod$ **(0,1,2,4,6)**

a. $\prod$ **(3,5,7)**

b. $\sum$(3,5,7)

c. a`bc +a`bc`+abc

d. $\sum$(0,1,2,4,6)

e. (a`+b+c)(a`+b+c`)(a+b+c)

Question **12**

Complete

Mark 0.00 out of 1.00

The magnitude of $(-122)_{10}$

a. 011110000110

b. 100001111010

c. 000001111010

d. 111110000110