Started on Sunday, 1 August 2021, 9:38 AM
State Finished
Completed on Sunday, 1 August 2021, 10:28 AM
Time taken 49 mins 56 secs
Grade **21.25** out of 25.00 (**85**%)

Question 1
Incorrect
Mark 0.00 out of 1.25

If the number **A=-32, B= -14**, find:
A-B, in 2's complement, 7-bits representation.

a. 1101110
b. 1010010 ✖
c. 0010010
d. 01101110
e. 11101110

The correct answer is:
1101110

Question **2**

Correct

Mark 1.25 out of 1.25

Carry out the following number conversion $(4D.C)_{16} = (?)_{10}$

- a. 413.12
- b. 77.75 ✔
- c. 70.75
- d. 01000111.0110

The correct answer is:

77.75

Question **3**

Correct

Mark 1.25 out of 1.25

What's the value of this unsigned number in decimal?

$(1011)_2$

- a. 3
- b. 11 ✔
- c. -3
- d. 5
- e. -11
- f. 4
- g. -5

The correct answer is:

11

Question **4**

Correct

Mark 1.25 out of 1.25

Convert this number from one base to another:

$(20)_{16}$ = ( )$_{BCD}$

- a. 001100110
- b. 00110010 ✔
- c. 00010010
- d. 00100000
- e. 001100100

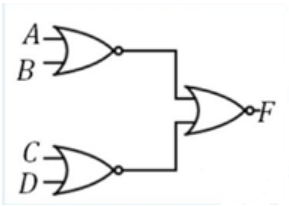
The correct answer is:
00110010

Question **5**

Correct

Mark 1.25 out of 1.25

The function F generated by the following logic circuit is:



- a. F= A + B + C + D
- b. None is correct
- c. F= (A + B)(C + D) ✔
- d. F= A.B.C.D
- e. F= (A' + B')(C' + D')

The correct answer is:
F= (A + B)(C + D)

Question 6

Correct

Mark 1.25 out of 1.25

For the truth table of the given figure, **Z =** .....

A	B	C	Z
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	0

a. BC + B`C

b. C` ✔

c. B`C` + BC`

d. B`

The correct answer is:
C`

Question **7**

Correct

Mark 1.25 out of 1.25

Which K-map corresponds to a **Π (0,1,8,9,10)?**

a.

CD / AB	00	01	11	10
00			1	1
01	1	1	1	1
11	1	1	1	1
10			1	

b.

CD / AB	00	01	11	10
00			1	1
01	1	1	1	1
11	1	1		1
10				

c.

CD / AB	00	01	11	10
00			1	
01	1	1	1	1
11	1	1	1	1
10			1	

d.

CD / AB	00	01	11	10
00			1	1
01	1	1	1	1
11	1	1		1
10			1	

The correct answer is:

CD / AB	00	01	11	10
00			1	1
01	1	1	1	1
11	1	1	1	1
10			1	

Question 8

Correct

Mark 1.25 out of 1.25

Convert the number $(51)_{10}$ to base 7?

- a. 100
- b. 103
- c. 102 ✔
- d. 101
- e. 99

The correct answer is:

102

Question 9

Incorrect

Mark 0.00 out of 1.25

Give F(A,B,C)= A+B`C, find F` as a standard SOP

- a. A`B`+A`C`
- b. A`(C`+B`)
- c. A`(C`+B) ✖
- d. A`(B`C`)`
- e. A`B+A`C`

The correct answer is:
A`B+A`C`

Question **10**

Correct

Mark 1.25 out of 1.25

Convert this number from one base to another:

$(90E1.01)_{16}$ = ( )$_8$

- a. 110341.002 ✔
- b. 10341.002
- c. 110341.2
- d. 110341.02
- e. 1103410.02

The correct answer is:
110341.002

Question **11**

Correct

Mark 1.25 out of 1.25

The complement of the function: **F= x+1 + (y`x` + z)`**

- a. 1
- b. y`x`+z
- c. 0 ✔
- d. x`+0 + (y`x` + z)

The correct answer is:
0

Question **12**

Correct

Mark 1.25 out of 1.25

Find the complement of the function in maxterm list form:

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

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

b. a`bc +a`bc`+abc

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

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

e. $\prod$ **(3,5,7)** ✔

The correct answer is:

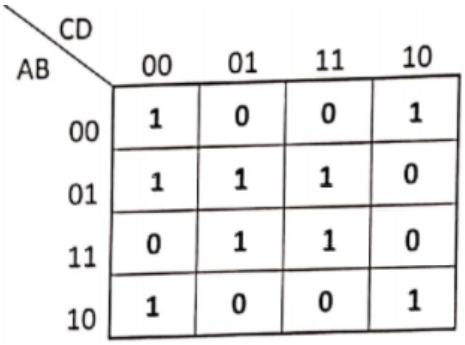
$\prod$ **(3,5,7)**

Question **13**

Correct

Mark 1.25 out of 1.25

List all essential prime implicants in the following k-map:



AB \ CD	00	01	11	10
00	1	0	0	1
01	1	1	1	0
11	0	1	1	0
10	1	0	0	1

a. B`D`

b. BD

c. A`C`D`

d. BD, B`D` ✔

e. BD, B`D`, A`C`D`

The correct answer is:
BD, B`D`

Question **14**

Correct

Mark 1.25 out of 1.25

Convert this number from one base to another:

$(.711)_8 = (\quad)_2$

a. .1110101

b. .111001001 ✔

c. .01111001001

d. .011001001

e. .1110010011

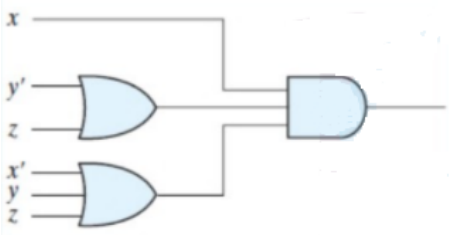
The correct answer is:
.111001001

Question **15**

Correct

Mark 1.25 out of 1.25

The following figure represents the gate level implementation of the boolean function F(x,y,z) expressed as:



a. non-canonical sum of products

b. product of maxterms

c. None is correct

d. non-canonical product of sums ✔

e. sum of minterms

The correct answer is:
non-canonical product of sums

Question **16**

Correct

Mark 1.25 out of 1.25

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+m4

c. m1+m6

d. m1+m2

e. m2+m6 ✔

The correct answer is: m2+m6

Question 17

Correct

Mark 1.25 out of 1.25

Which of the following statement(s) is/are correct?

- [x] a. NAND and NOR gates are universal gates. ✔
- [ ] b. We cannot implement any Boolean function using only NAND gates.
- [x] c. We can implement any Boolean function using only NOR gates. ✔
- [ ] d. None of the other statements is correct

The correct answers are:
NAND and NOR gates are universal gates.,
We can implement any Boolean function using only NOR gates.

Question 18

Correct

Mark 1.25 out of 1.25

Find canonical SOP of the standard function:

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

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

The correct answer is:
$\sum$**(2,4,5,6)**

Question **19**

Correct

Mark 1.25 out of 1.25

The Karnaugh map shown below, What is the minimal form of the function represented by the Karnaugh map?

X: denotes a don't care term.

-> ab

↓cd	00	01	11	10
00	1	1	0	1
01	X	0	0	0
11	X	0	0	0
10	1	1	0	X

- a. a'.d' + b'.d' ✔
- b. b'.d'+a.'b'.d'
- c. a'.b'+b'.d'+a.'a'.d'
- d. a'.b'+b'.d'+a.b'.d'
- e. None of the mentioned

The correct answer is:
a'.d' + b'.d'

Question **20**

Incorrect

Mark 0.00 out of 1.25

Use Theorems of Boolean Algebra to simplify the function:

F(A,B,C,D) = AB`C+ABC+BCD`+D

- a. A+B+C
- b. BC+D+AC
- c. AB+C
- d. C(A+B)+D
- e. AC+D ✖

The correct answers are:
BC+D+AC,

C(A+B)+D

◄ Announcements

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Data retention summary