

Subject:

Year. Month. Date. ()

Σ ۰۰۰ ۹/۱۰۰

موسسه تخصصی زبان

A) $C \oplus V \oplus B \oplus 9$

+ $A \oplus E \oplus W \oplus 1$

$19 A \oplus 0 A$

$r=19$

B) $Y \oplus 0 \oplus 1 \oplus 1 \oplus 1 \oplus 0$

$\times 1 \oplus 0 \oplus 0 \oplus 1 \oplus 0 \oplus 0 \oplus 1$

+ $Y \oplus 0 \oplus 1 \oplus 1 \oplus 1 \oplus 0$

$1 \oplus 1 \oplus 0 \oplus 0 \oplus 1 \oplus 0 \oplus 0 \oplus 0$

+ $Y \oplus 0 \oplus 1 \oplus 1 \oplus 1 \oplus 0 \oplus 0 \oplus 0 \oplus 0 \oplus 0$

$Y \oplus 1 \oplus 0 \oplus 0 \oplus 1 \oplus 1 \oplus 1 \oplus 1 \oplus 1 \oplus 0$

$r=0$

A) $f(A, B, C) = A \oplus B \oplus C$

A	B	C	$f(A, B, C)$
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0	0	0	0
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$(A'B + AB')'C + (A'B + AB')C'$

0	0	1	1
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0	1	0	1
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$(A+B')(A'+B)C + (A'B + AB')C'$

0	1	1	0
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1	0	0	1
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$ABC + A'B'C + A'BC' + AB'C'$

1	0	1	0
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1	1	0	0
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$f(A, B, C) = \sum m(1, 5, 6, 7)$

1	1	1	1
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$f(A, B, C) = \prod M(0, 2, 4, 3)$

$f(A, B, C) = (A+B+C)(A+B'+C')(A'+B+C)(A'+B'+C)$

NEGAR.ESFAHAN

pos

$$f(A, B, C) = \prod M(1, 2, 3, 4)$$

$$f(A, B, C) = (A+B+C)(A+B+C)(A+B+C)(A+B+C)$$

$$f(A, B, C) \text{ is not POS}$$

$$B) f(L, m, n) = ((L \odot m) \oplus (m \oplus n))'$$

L	m	n	$f(L, m, n) = (L' m' n) + (L' m n) + (L m' n) + (L m n)$
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	0

$$f(L, m, n) = \sum m(1, 2, 3, 4)$$

$$f(L, m, n) = \prod M(0, 2, 4, 6)$$

$$f(L, m, n) = (L+m+n)(L+m+n)(L+m+n)(L+m+n)$$

$$f(L, m, n) = \prod M(1, 2, 3, 4) \Rightarrow (L+m+n)(L+m+n)(L+m+n)(L+m+n)$$

$$A: (a' + c) \cdot (b' + ad) \cdot (a' + d) = a' c' (b' + ad) + (a' + c' + d) \quad (A)$$

$$a' c' (b' + ad) + a' + c' + d = a' b' c' + a' a d' + a' c' c' + a' c' d$$

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$$\begin{aligned} & a b c' (a' + a) + a c' + a c' d' = a a' b c' + a b c' d' + a c' = \\ & = \boxed{a c'} \end{aligned}$$

$$B: a c' + a' c d' + a b' d + a' b' c + b' c' d' =$$

ساده تر نشود!

$$C: \underline{A C} + \underline{A' B C D} + \underline{(A' + C') B D} + \underline{B C} + A' B (C' + D') =$$

$$\begin{aligned} A C + B C + \underline{A' B C'} + A' B D' &= \underline{A C} + \underline{B C} + \underline{A' B} + A' B D' \\ &\quad B(C + A' C') \\ &\quad (C + A') \end{aligned}$$

$$A C + \underline{A' B} + \underline{A' B D'} = \boxed{A C + A' B}$$

$$D: \underline{x y z'} + \underline{x z'} + y z' + (x y)' z + x' y z$$

$$(x' + y') z \quad \text{باز اجماع}$$

$$\begin{aligned} x z' + y z' + x' z + y z + x' y z &= \underline{x z'} + \underline{y z'} + \underline{x' y} + \underline{x' z} + \underline{y z} \\ &\quad y(z' + x' z) \end{aligned}$$

$$y z' + y x' = \boxed{x z' + x' y + y z}$$

$$A: [(a' + c) \cdot ((b' + ad) \cdot (acd'))']$$

(B

$$(a' + c) + ((b' + ad) \cdot (acd')) = a' + c + \underline{ab'cd'}$$

$$ab'cd' + a \cdot d \cdot a'cd'$$

$$= \boxed{a' + c}$$

$$B: [ac' + a'cd' + abd + a'b'c + b'cd']$$

$$(a' + c)(a + c + d)(a' + b + d)(a + b + c)(b + c + d)$$

$$C: [Ac + A'BCD + (A' + c')'BD + BC + A'B(c' + d)']$$

$$\underline{(A' + c')}(A + B) + \underline{c' + d'}(A' + c') \mid (B' + c')(A + B) + \underline{CD}$$

$$(A' + c')((A + B) + \underline{CD(c' + d')}) (B' + c')$$

$$\underline{CDc' + CDd'}$$

$$(A' + c')(A + B)(B' + c') = (B' + (Ac'))(A' + c')$$

$$A'B' + \underline{A'Ac'} + B'c' + \underline{Ac'c'} = \underline{A'B'} + \underline{B'c'} + \underline{Ac'} = \boxed{A'B' + A'c'}$$

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$$D_i [xyz' + xz' + (xy)'z + x'y z]'$$

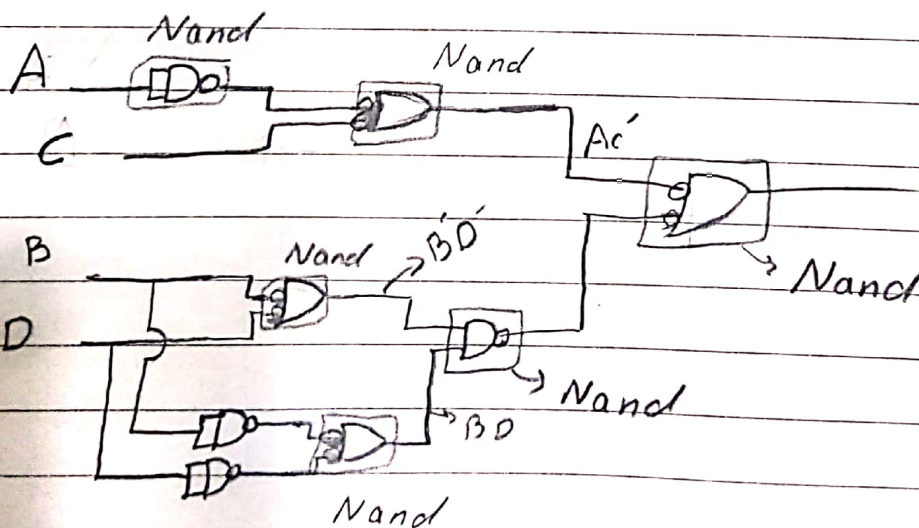
$$\underline{(x' + y' + z)} (\underline{x' + z}) (\underline{y' + z}) (\underline{xy + z'}) (\underline{x + y' + z'})$$

$$\underline{z' + z'} \rightarrow z' + (z)(z')$$

$$(z + (iy)) (z' + (iy')) = yz + y'z' \quad \begin{matrix} zy + zy' \\ yz + y'z' \end{matrix}$$

$$\xi_m(A, 1c) = AB\bar{C}D + ABC\bar{D}$$

$$\rightarrow AC'(B'D' + BD)$$



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(A) تأثیر مدار بدون در نظر گرفتن نسبت (Not) برابر با (E) است

(B)

$$((A'C)AB' + (ABC)') \ominus (ABC)' =$$

$$(A+C) \ominus (A'B' + A'B'C + A' + B' + C)' \rightarrow (ABC) \ominus (ABC)' = \boxed{0}$$

$$(A' + B' + C)$$

$$ABC$$

(C) شماره منراست به منی :

$$f(A, B, C)$$

(4)

A	B	C	D	f ₁	f ₂
0	0	0	0	0	0
0	0	0	1	0	0
0	0	1	0	1	0
0	0	1	1	1	1
0	1	0	0	0	0
0	1	0	1	1	0
0	1	1	0	0	1
0	1	1	1	1	0
1	0	0	0	0	0
1	0	0	1	0	1
1	0	1	0	0	0
1	0	1	1	1	0
1	1	0	0	0	1
1	1	0	1	1	0
1	1	1	0	0	0
1	1	1	1	0	1

۴ ورودی

۲ خروجی

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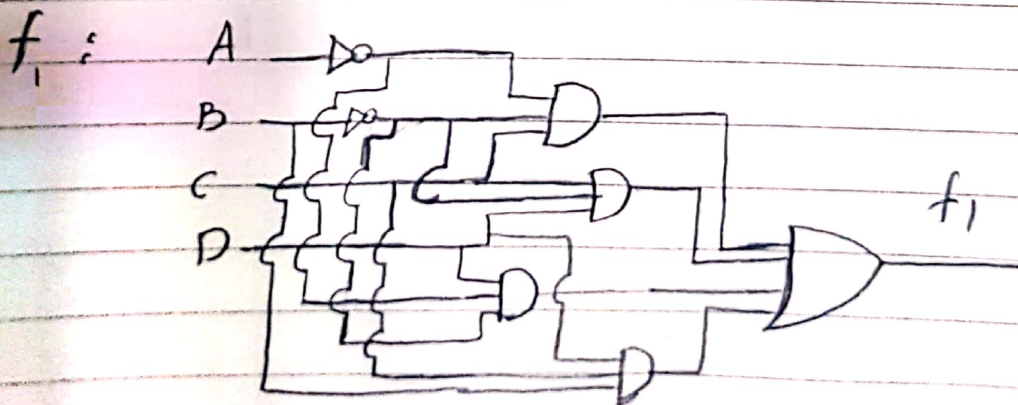
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$$f_1 = \sum m(4, 6, 9, 11, 12)$$

$$\begin{aligned} f_1(A, B, C, D) &= A'B'CD' + A'B'CD + A'BC'D + A'BCD + AB'CD \\ &\quad + ABC'D = A'B'C + A'BD + AB'CD + ABC'D \\ &= (A' + AD)B'C + (A' + A'C)BD \\ &\quad \quad \quad A' + D \quad \quad \quad A' + C \\ &= A'B'C + B'CD + A'BD + BC'D \end{aligned}$$

$$f_2 = \sum m(2, 4, 9, 11, 10)$$

$$\begin{aligned} f_2(A, B, C, D) &= A'BCD + A'BCD' + AB'CD + AB'CD' + ABCD \\ &\quad A'C(B'D + BD') \quad \quad \quad AB(C'D + CD) \\ &\quad A'C(B \oplus D) \quad + \quad \quad \quad AB(C \odot D) \end{aligned}$$



$$A'C(B \oplus D) + AB(C \odot D)$$

f_x \hat{c}

