

CHƯƠNG IV

(7).

$$A_1 = \{5, 7, 11, 13\}$$

$$A_2 = \{5, 7, 10, 14\}$$

$$A_3 = \{6, 9, 12, 15\}$$

$$A_4 = \{8, 9\}$$

$$A_5 = \{9, 10, 11, 12\}$$

$$A_6 = \{5, 6, 13, 14, 15\}$$

	A_1	A_2	A_3	A_4	A_5	A_6	
5	x	x				x	$a_1 \vee a_2 \vee a_6 = 1$
6			x			x	$a_3 \vee a_6 = 1$
7	x	x					$a_1 \vee a_2 = 1$
8				x			$a_4 = 1$
9			x	x	x		$a_2 \vee a_4 \vee a_5 = 1$
10		x			x		$a_2 \vee a_5 = 1$
11	x				x		$a_1 \vee a_2 = 1$
12			x		x		$a_3 \vee a_5 = 1$
13	x					x	$a_1 \vee a_6 = 1$
14		x				x	$a_2 \vee a_6 = 1$
15.			x			x	$a_3 \vee a_6 = 1$

$$1 = (\alpha_3 \vee \alpha_6) (\alpha_1 \vee \alpha_2) \alpha_4 (\alpha_2 \vee \alpha_5) (\alpha_1 \vee \alpha_5) (\alpha_3 \vee \alpha_5)$$

$$(\alpha_1 \vee \alpha_6) (\alpha_3 \vee \alpha_6) (\alpha_3 \vee \alpha_4)$$

$$\Leftrightarrow 1 = [\alpha_6 \vee (\alpha_1 \wedge \alpha_2 \wedge \alpha_3)] [\alpha_5 \vee (\alpha_1 \wedge \alpha_2 \wedge \alpha_3)] \alpha_4 (\alpha_1 \vee \alpha_2)$$

$$\Leftrightarrow 1 = [(\alpha_1 \wedge \alpha_2 \wedge \alpha_3) \vee (\alpha_5 \wedge \alpha_6)] \alpha_4 (\alpha_1 \vee \alpha_2)$$

$$\Leftrightarrow 1 = (\alpha_1 \alpha_2 \alpha_3 \alpha_4) \vee (\alpha_4 \alpha_5 \alpha_6) (\alpha_1 \vee \alpha_2)$$

$$\Leftrightarrow 1 = (\alpha_1 \alpha_2 \alpha_3 \alpha_4) \vee (\alpha_1 \alpha_4 \alpha_5 \alpha_6) \vee (\alpha_2 \alpha_4 \alpha_5 \alpha_6)$$

$$\Leftrightarrow \begin{cases} \alpha_1 \alpha_2 \alpha_3 \alpha_4 = 1 \\ \alpha_1 \alpha_4 \alpha_5 \alpha_6 = 1 \\ \alpha_2 \alpha_4 \alpha_5 \alpha_6 = 1 \end{cases}$$

α_1	α_2	α_3	α_4	α_5	α_6	Phép toán điều
1	1	1	1			$A_1 A_2 A_3 A_4$
1				1	1	$A_1 A_4 A_5 A_6$
		1		1	1	$A_2 A_3 A_5 A_6$

12 $\begin{cases} \bar{a} \vee \bar{a}\bar{y} = 0 \\ \bar{a}\bar{y} = \bar{a}\bar{z} \end{cases}$ (1) (2) (4)

 $\bar{a}\bar{y} \vee \bar{a}\bar{z} \vee zw = zw.$ (3)

(1) $a \vee \bar{a}\bar{y} = 0 \Leftrightarrow \bar{a} \cdot (\bar{a} \vee \bar{y}) = 1$

$\Leftrightarrow \bar{a}\bar{y} = 1$

$$(2) \bar{a}y = \bar{a}z \Leftrightarrow \bar{a}y \bar{a}z \vee (\bar{a}v\bar{y})(\bar{a}v\bar{z}) = 1$$

$$\Leftrightarrow \bar{a}y_2 \vee a \vee a\bar{z} \vee a\bar{y} \vee \bar{y}\bar{z} = 1$$

$$\Leftrightarrow \bar{a}y_2 \vee a \vee \bar{y}\bar{z} = 1$$

$$(3) \bar{a}y \vee \bar{a}\bar{z} \vee z w = \bar{z}w.$$

$$\Leftrightarrow (\bar{a}y \vee \bar{a}\bar{z} \vee z w) \bar{z}w \vee (\bar{a}v\bar{y})(\bar{a}v\bar{z})(\bar{z}v\bar{w})(z w \bar{w}) = 1$$

$$\Leftrightarrow \cancel{\bar{a}y\bar{z}w} \vee \cancel{\bar{a}\bar{z}w} \vee \cancel{a\bar{z}\bar{w}} \vee \cancel{a\bar{z}w} \vee \cancel{a\bar{w}v} \vee \cancel{a\bar{z}v} \vee \cancel{a\bar{y}z\bar{w}}$$

$$\vee \cancel{a\bar{y}\bar{z}\bar{w}} \vee \cancel{a\bar{y}\bar{w}} \vee \cancel{\bar{y}z\bar{w}} \vee \cancel{\bar{y}\bar{z}\bar{w}} = 1$$

$$\Leftrightarrow \bar{a}\bar{z}w \vee a\bar{w} \vee \bar{y}z\bar{w} = 1$$

$$\int \bar{a}\bar{y} = 1.$$

$$(4) \Leftrightarrow \left\{ \begin{array}{l} \bar{a}y_2 \vee a v \bar{y}\bar{z} = 1. \\ \bar{a}\bar{z}w \vee a\bar{w} \vee \bar{y}z\bar{w} = 1 \end{array} \right.$$

$$\Leftrightarrow \bar{a}\bar{y} (\bar{a}y_2 \vee a v \bar{y}\bar{z}) \cdot (\bar{a}\bar{z}w \vee a\bar{w} \vee \bar{y}z\bar{w}) = 1$$

$$\Leftrightarrow \bar{a}\bar{y}\bar{z} (\bar{a}\bar{z}w \vee a\bar{w} \vee \bar{y}z\bar{w}) = 1$$

$$\Leftrightarrow \bar{a}\bar{y}\bar{z}w = 1.$$

a	y	z	w.
0	0	0	1

B7/157.

a) $f = 1110 \cdot 0101 \cdot 1100 \cdot 0001$

a	b	c	d	f.	
0	0	0	0	1	$\bar{a} \bar{b} \bar{c} \bar{d}$
0	0	0	1	1	$\bar{a} \bar{b} \bar{c} d$
0	0	1	0	1	$\bar{a} b \bar{c} \bar{d}$
0	0	1	1	0	
0	1	0	0	0	
0	1	0	1	1	$\bar{a} b \bar{c} d$
0	1	1	0	0	
0	1	1	1	1	$\bar{a} b c d$
1	0	0	0	1	$\bar{a} \bar{b} \bar{c} d$
1	0	0	1	1	$a \bar{b} \bar{c} d$
1	0	1	0	1	$a \bar{b} c \bar{d}$
1	0	1	1	0	
1	1	0	0	0	
1	1	0	1	0	
1	1	1	0	0	
1	1	1	1	1	$a b c d$

2). Dạng nuyễn chuẩn xác

$$f = \bar{a} \bar{b} \bar{c} \bar{d} \vee \bar{a} \bar{b} \bar{c} d \vee \bar{a} \bar{b} c \bar{d} \vee \bar{a} \bar{b} c d \vee \bar{a} b \bar{c} d$$

$v \bar{a} \bar{b} \bar{c} \bar{d}$ $v a \bar{b} \bar{c} d$ $v \bar{a} \bar{b} c \bar{d}$ $v a b c d$