Quine-McCluskey minimization Technique (Tabular Method)

Les Solving dange Imput where (6 variables) where K-Map, Boolean Algebra

Les very Complen digital Electronics solved here

La Prime Implicant: dangest Possible no of l's

Lo Essential Prime Implicant.

Ex! - Y(A,B,C,D) = Zm(0,1,3,7,8,9,11,15)

Make binary equivalent of all minterms 0 -> 0000

Step 1:
Make a table with same no of its

0 -> 0000 8 -> 1000

1 -> 0001 9 > 1001,

3-> 0011, 11-> 1011~

7-3 @0111 15-3 1111 x

Step1:	Group	Minterm	Binary Representati ABCD
-	10	moj	0 0 00 ~
	V 1	Emsk.	0000
	2	image.	1001
	3	I MIK	. 0111
	L	1m15)	1111

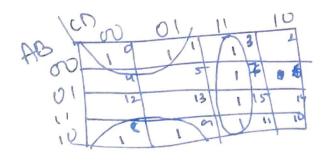
St	Group	Make another table (diff of only variable Matched Pair (compare noonti)	Binary Rep	
	0	mo-mg / /	000_	
	١	$m_1 - m_3 \times x$	00-1	
	Ž	m3-wir m3-wir	0-11	
	3	m11 - m12	_	
Cte	PIII		* 5	
CONTROL OF THE PARTY OF THE PAR	soup	Matched Pair	Bigary R	ep
	0	$m_0 - m_8 - m_1 - m_0$	- 00-	BE
		$m_1 - m_3 \cdot m_{9} - m_{4}$ $m_1 - m_{9} - m_{3} \cdot m_{11}$	- 0 - 1	BD
	2	m3-m9-m11-m7-m15		CD

Step IV

Prime Imp licant Pable : which help to get essential P. I

P. I	Minterm Involved	0	1	3	T \	8	q \	, /	15
BC	mo, m, me,m	X	×			(X)	X		7
BD	m ₁ m ₃ m ₉ m ₁₁		X	×			×	×	
CD	w3 w5 w"w	2		×	X)		×	(X)
			1	٠				1	

BC+CD



Y = CD + BC

Q = F(a,b,c,d) = 2(0,5,8,9,10,11,14,15)

Soln :-

Stepl:-

Group	Minterm	Binary Reprosentation A B C D
0	mo	0 0 0 0
1000 /	mer	1000~
2	ms ms ms ms	1001
3	mily	10112
4	Lm 15-V	

StepP (Binary Rep Matched Winterm Group A B CD - 000 (4) mo, m8 m8, m9 m81 W10 10-0 mg, mil m101m11 m10, m14 m11, m15 m14, m15-Step 117 Poinary Rep Matched Minterm Group & we' wo'l wowl. AB me mo ma, mil 10 mioimii miy mism101 m141 m111 m15-AC mg, mg m1-

ABED 0101

Essential PI

PI	Minterm	0 \	S	8	9	10	11	14715
8 91011				X	X	X	X	
10,11,14,0						×	X	86
0,8		X		X				
5			(X)					

= AB' + AC + BCD + ABCD