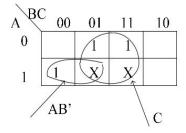
Tutorial 2(Extra Questions)

- (1). Simplify Boolean expression A+A'B+A'B'C+A'B'C'D+----sol:A+B+C+D+....
- (2). Y = F(A,B,C,D) = \sum (0,1,4,5,7,9,12). Express the same using Π ? sol:Y = F(A,B,C,D)= Π (2,3,6,8,10,11,13,14,15)
- (3). 14. Y = A'C + AC'B' and you are given that A=C=1 will never occur. Simplify Y?

Sol: Y = A'C + AC'B' and the output will be don't care for A = C = 1. So the K-map will be as follows:



Thus the simplified expression for Y is AB' + C

(4). If F(A,B,C,D,E) = B'E, how many terms will be there in the standard or canonical SOP representation of F?

(5). In a 4 variable K-map, how many literals will the grouping of 4 adjacent cells will result. Generalize the solution for **N** variable k-map and for grouping of **K** adjacent cells?

Sol: In 3 variable map, grouping all 8 cells will give zero literals in the term as it is logical 1 always. Similarly, in 4 variable map the same grouping will give 1 literals, in 5 a variable map it is 2 and so on..

• So the literals in the term = $N - \log_2 k$

Tutorial 2(Extra Questions)

6.If a variable is having EX-OR operation itself 'n' number of times then the result is? sol:Let the variable be A

If 'n' is odd: The result would be 'A' If 'n' is even: The result would be '0'