



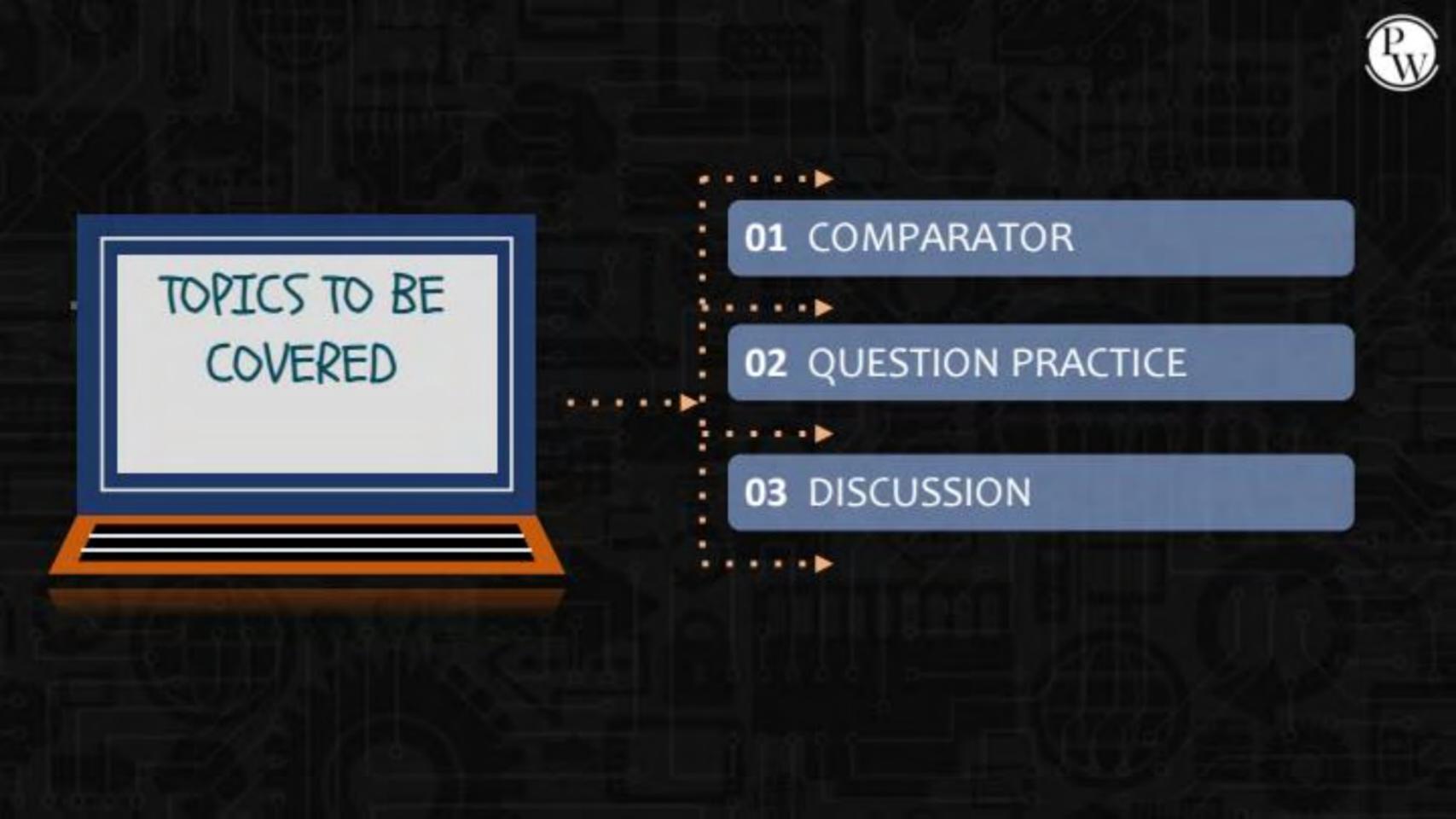


COMPARATOR, MUX Part 1

Lecture No. 1

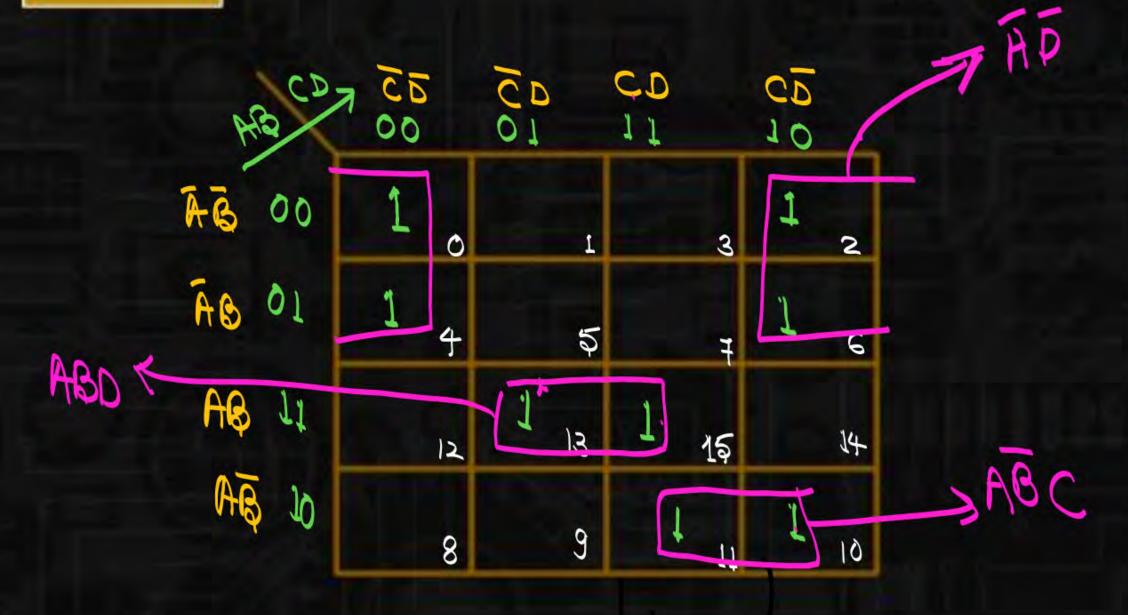


By- CHANDAN SIR



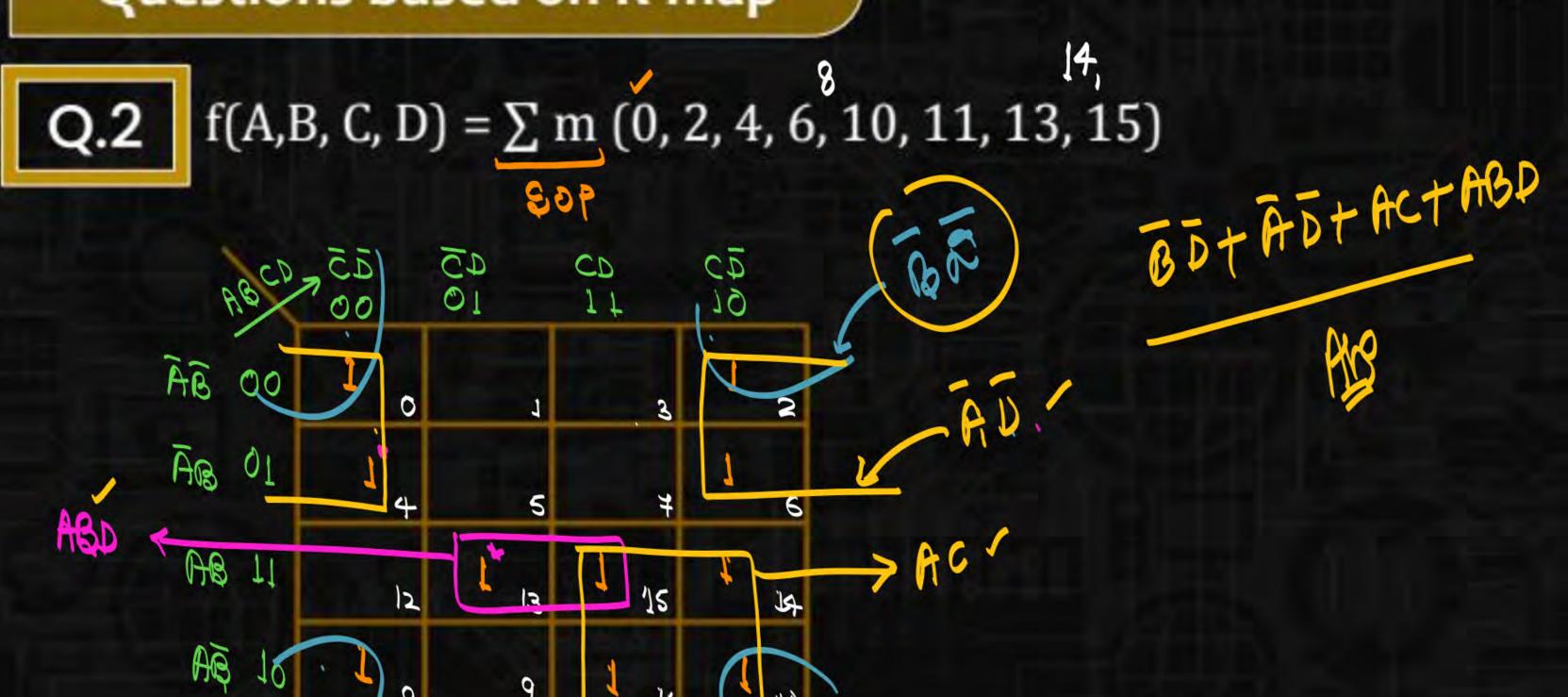


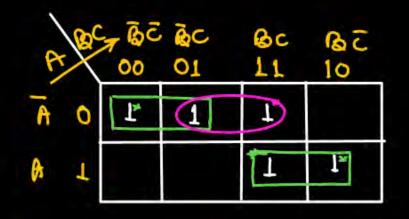
$$f(A,B,C,D) = \sum_{n}(0,2,4,6,10,11,13,15)$$



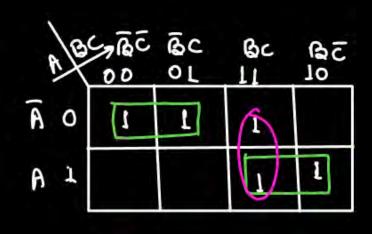
ADT ABCTARD



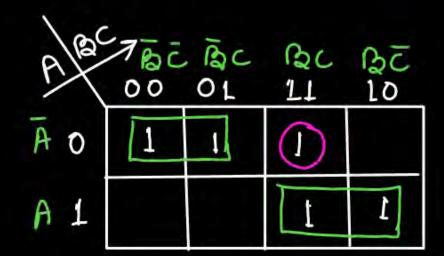




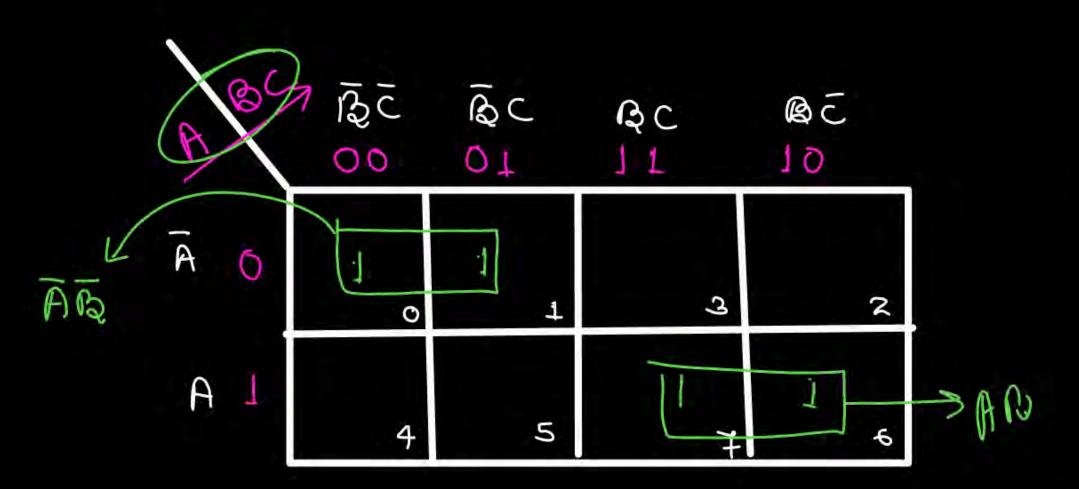
AB+AB+AC

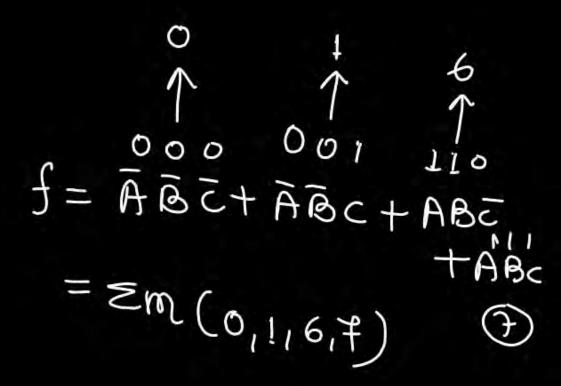


AB+ AB+ BC



AB+AB+ABC Semiminimized expression





AB+AB.

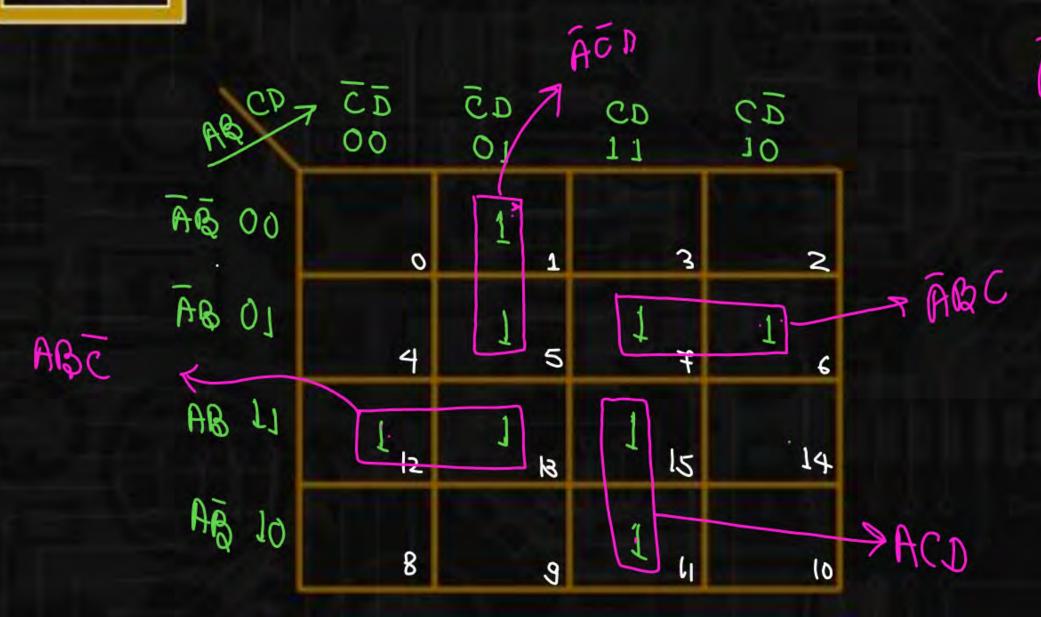


Q.3

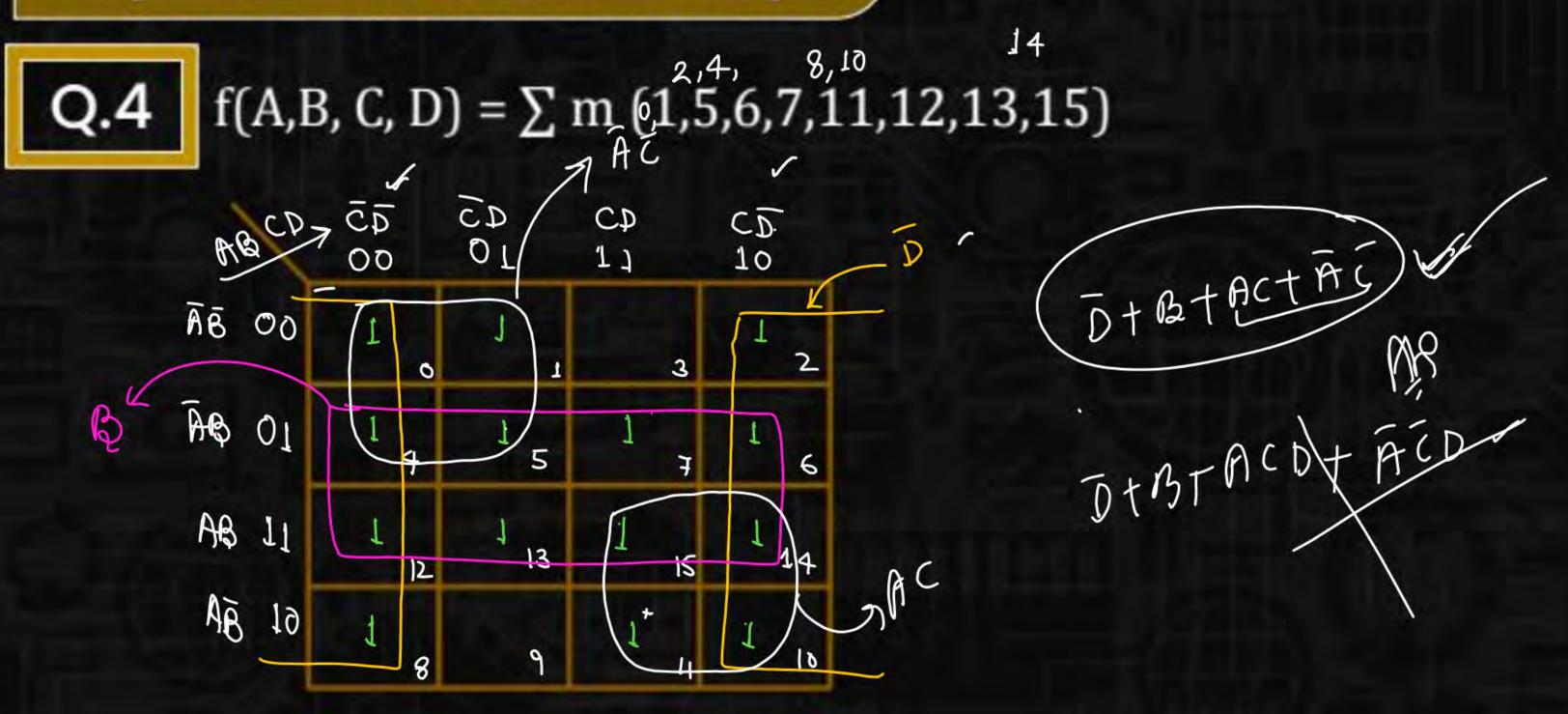
$$f(A,B,C,D) = \sum_{\alpha} m (1,5,6,7,11,12,13,15)$$

$$\hat{A}^{(C)} = \sum_{\alpha} m (1,5,6,7,11,12,13,15)$$

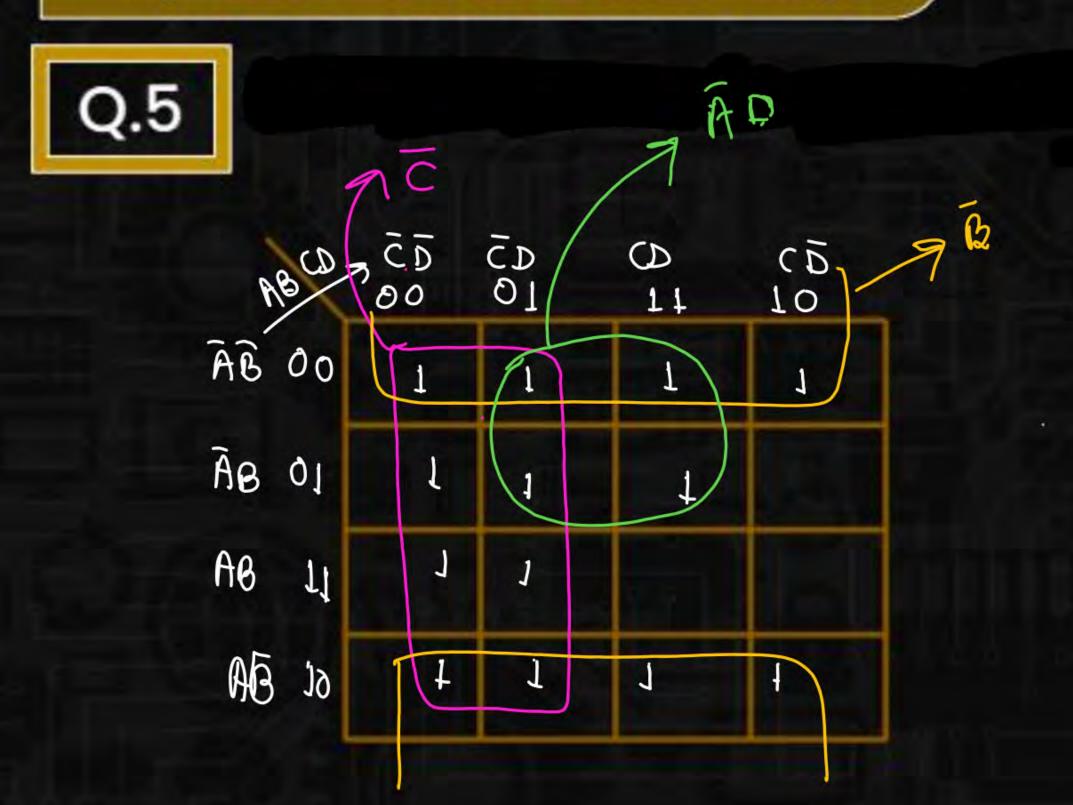
$$\hat{A}^{(C)} = \sum_{\alpha} m (1,5,6,7,11,12,13,15)$$













Q.6

 $f(A,B,C,D) = \sum m(0,2,4,6,7,8,10,11,12,14,15)$







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 $f(A,B,C,D) = \sum m(1,5,6,7,11,12,13,15)$

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HW



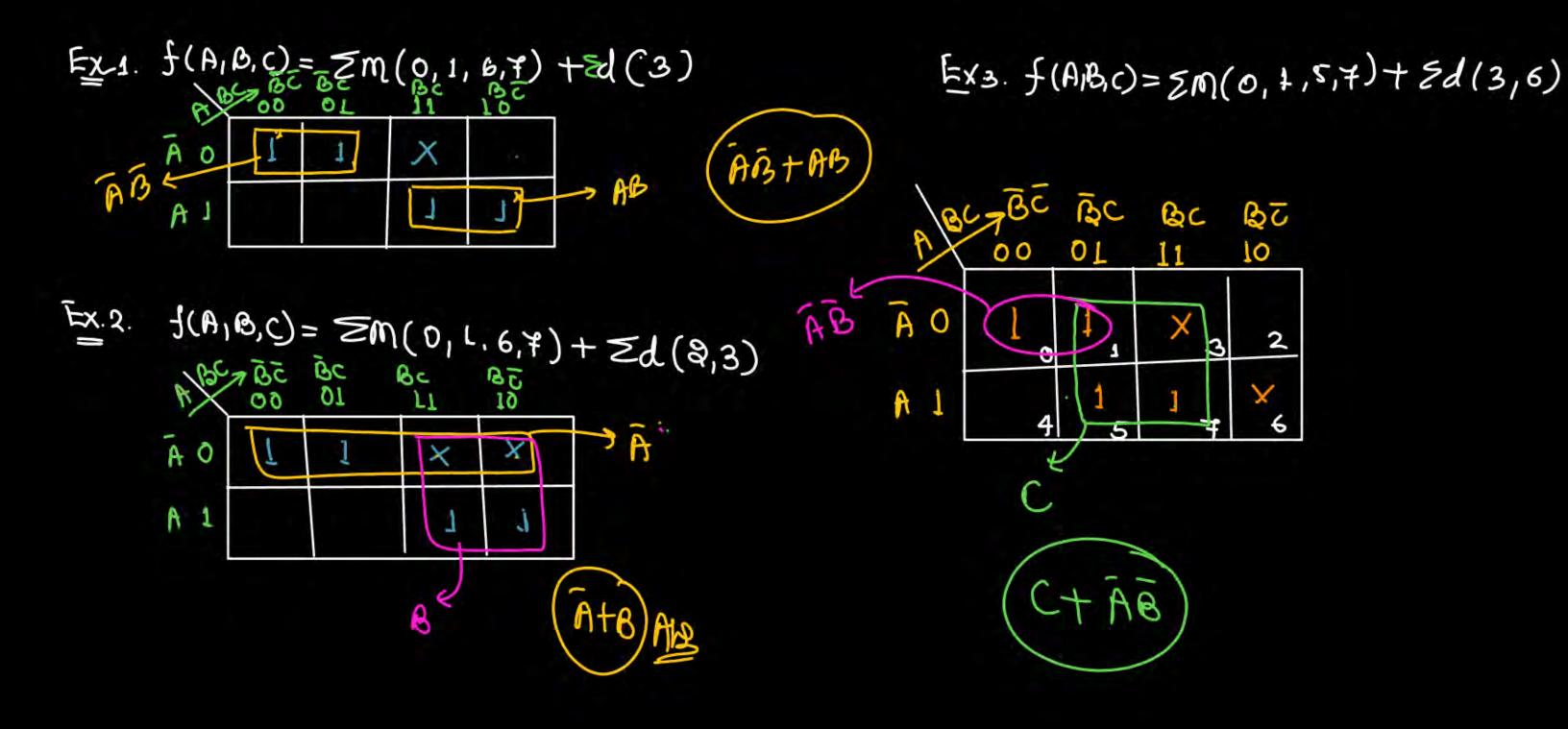
K Map - Basics



Don't Care Condition

Combination of inputs on which the output may or may not depends are called don't care condition.

f(A₁R) =
$$\overline{AB} + \overline{AB} + \overline{AB}$$

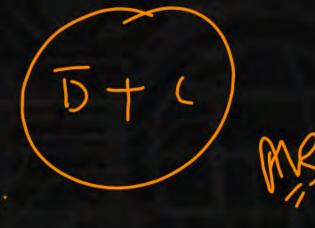




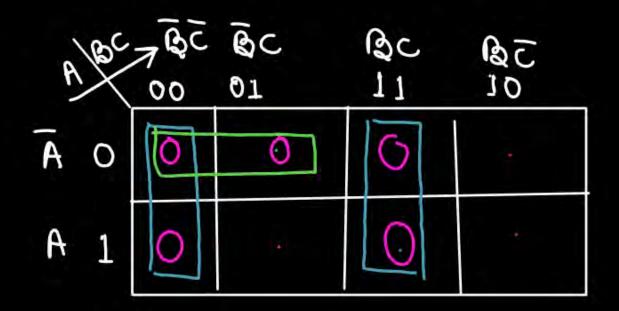
Q.8

 $f(A,B,C,D) = \sum_{n=0}^{\infty} m(0,2,4,6,7,8,10,11,12,14,15) + \sum_{n=0}^{\infty} d(1,3)$

AB CO	900	0(11	10
00	V	X	X	1
01	1		1	L
- 11	Ī)	1
10	1		1	(I)



K-IMAP in pos form :->



$$f = \overline{B}\overline{C} + \overline{A}B + BC$$

$$f = \overline{B}\overline{C} + \overline{A}B + BC$$

$$f = \overline{B}\overline{C} + \overline{A}B + BC$$

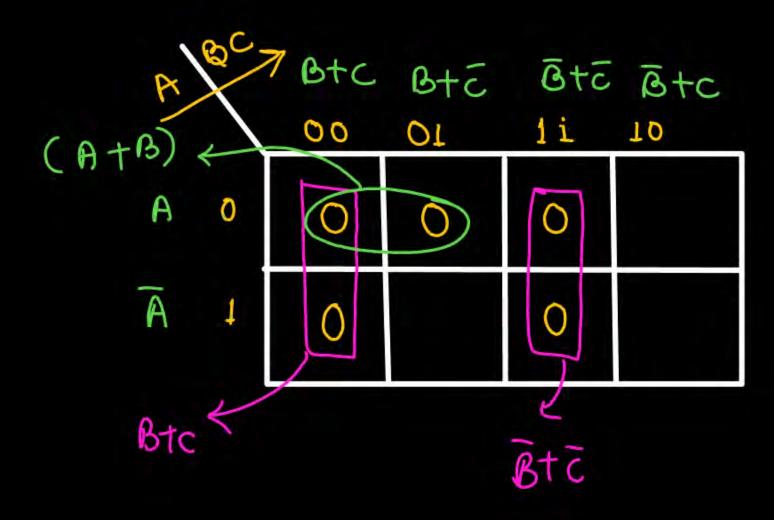
$$= \overline{B}\overline{C} \cdot \overline{A}B \cdot \overline{B}C = (B+C) \cdot (A+B) \cdot (B+C)$$

$$f = \overline{B}\overline{c} + \overline{A}c + Bc$$

$$f = \overline{B}\overline{c} + \overline{A}c + Bc > \overline{B}\overline{c} \cdot \overline{A}c \cdot Bc$$

$$f = \overline{B}\overline{c} + \overline{A}c + Bc > \overline{B}\overline{c} \cdot \overline{A}c \cdot Bc$$

$$= (B+c) \cdot (A+c) \cdot (B+c)$$



AB	Minterm	Maxterm
00	AB AB AB	ATB ATB ATB



