

# Tut-04

(1)  $f(A, B, C, D, E) = \sum (0, 1, 2, 3, 8, 12, 15, 16, 17, 18, 19, 22, 28, 31)$

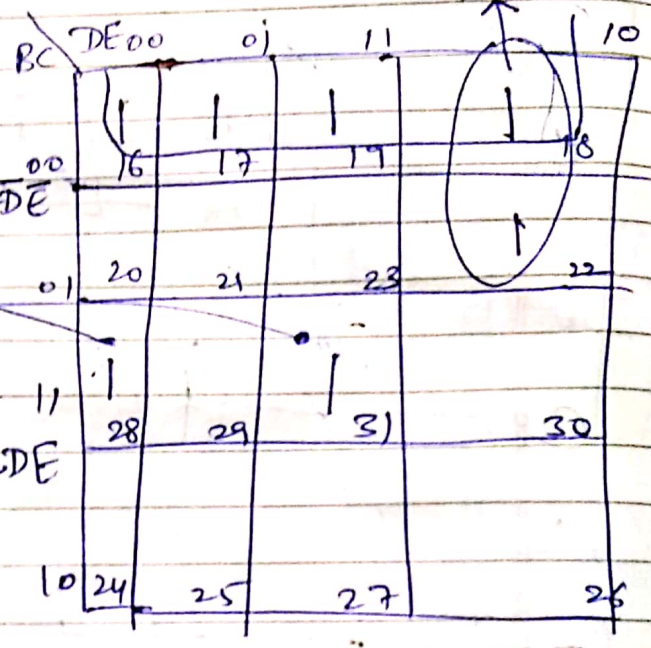
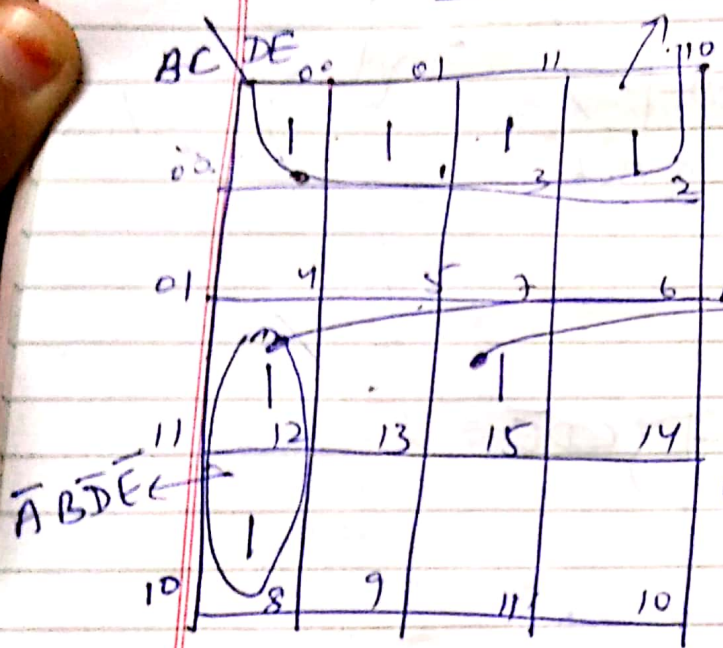
A=0

$\overline{BC}$

A=1

A=1

$\overline{ABDE}$



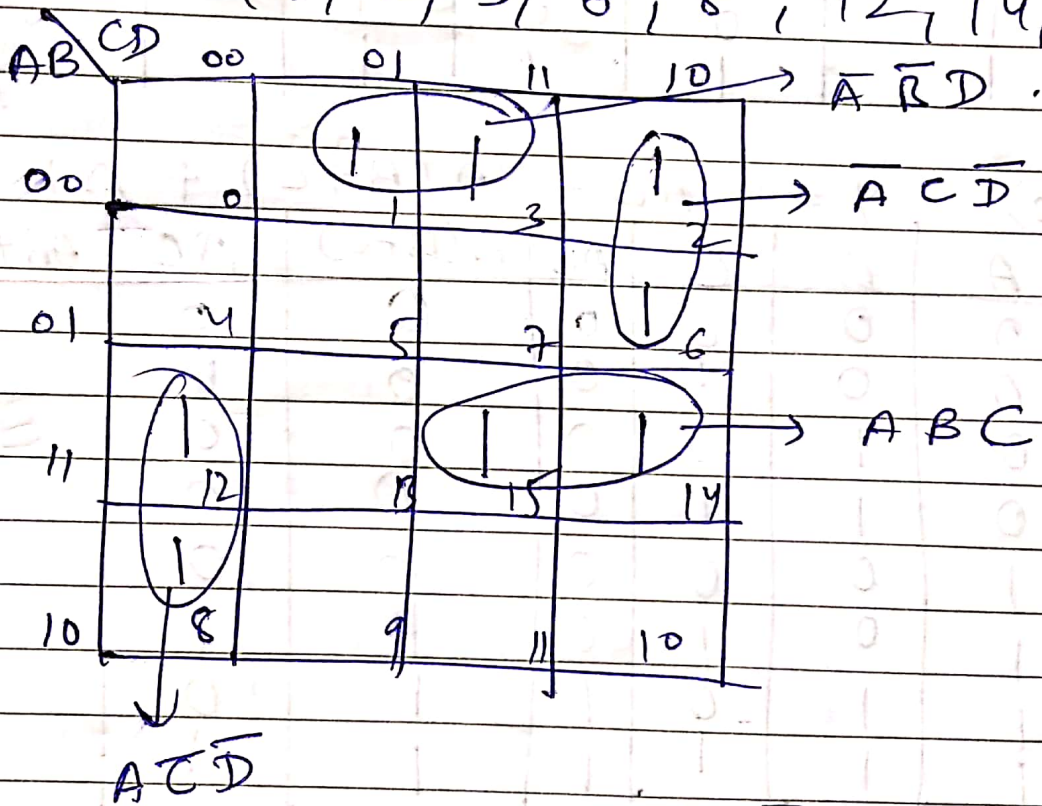
1 Octet  
4 pair

$$\overline{BC} + \overline{ABDE} + A\overline{BDE} + \overline{BCDE} + \overline{BCDE}$$

~~$$ABC + ADE + BCD + BC + ABDE$$~~

3)

$$Z_m(1, 2, 3, 6, 8, 12, 14, 15)$$



$$\bar{A}\bar{C}\bar{D} + ABC + \bar{A}\bar{C}\bar{D} + \bar{A}\bar{B}D$$



(4) (a)  $Y = A(B+C) + A$

A	B	C	B+C	A(B+C)	Y = A(B+C) + A
0	0	0	0	0	0
0	0	1	1	0	0
0	1	0	1	0	0
0	1	1	1	0	0
1	0	0	0	0	1
1	0	1	1	1	1
1	1	0	1	1	1
1	1	1	1	1	1

(b)  $Y = A + B + AB$

A	B	AB	A+B	Y = A + B + AB
0	0	0	0	0
0	1	0	1	1
1	0	0	1	1
1	1	1	1	1

(c)  $Y = AB + A(B+C) + A + AC$

A	B	C	AB	A(B+C)	AC	Y = AB + A(B+C) + A + AC
0	0	0	0	0	0	0
0	0	1	0	0	0	0
0	1	0	0	0	0	0
0	1	1	0	0	0	0
1	0	0	0	0	0	1
1	0	1	0	1	0	1
1	1	0	1	1	0	1
1	1	1	1	1	1	1

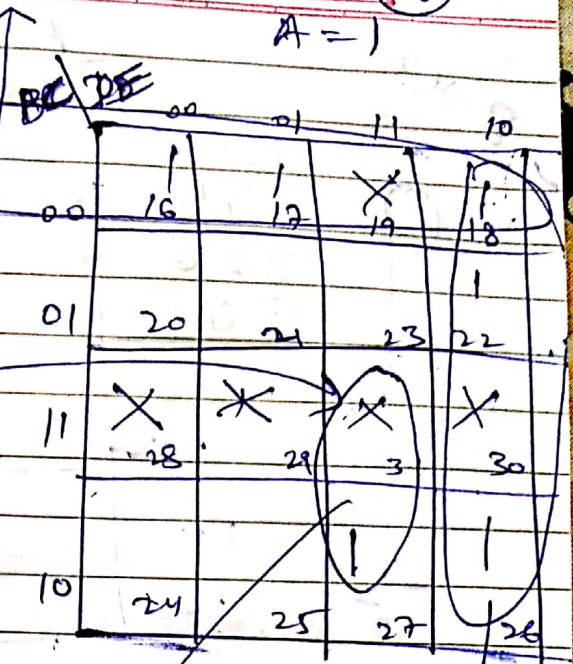
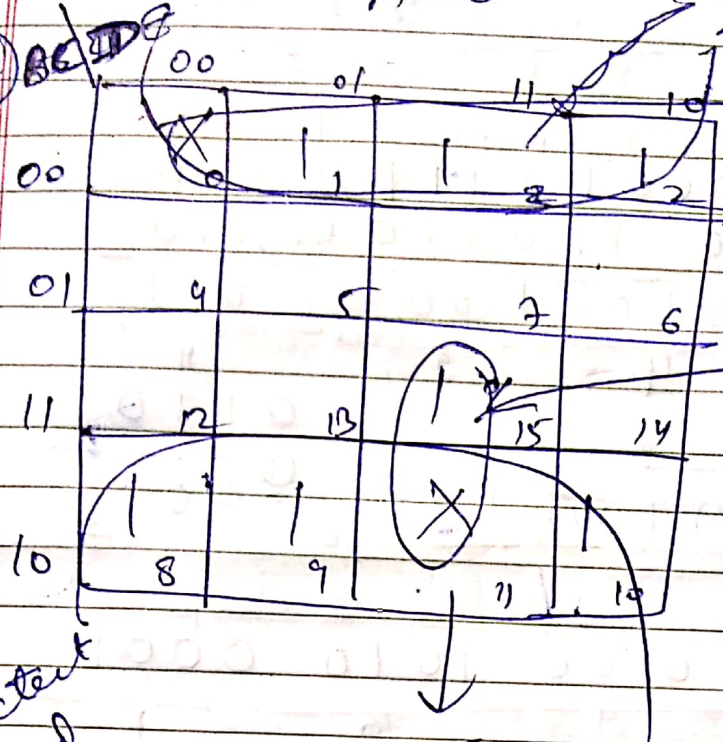


22)  $\overline{A}BCD$

$A=0$

$\overline{B}\overline{C}$

$A=1$



2 octet  
2 quad

$\overline{A}\overline{C}$

$B\overline{D}\overline{E}$

$A\overline{D}\overline{E}$

$$\overline{A}\overline{C} + \overline{B}\overline{C} + B\overline{D}\overline{E} + A\overline{D}\overline{E}$$