

$$2) F(A, B, C, D) = \prod (3, 4, 6, 7, 11, 12, 13, 14, 15)$$

AB \ CD	00	01	11	10
00			0	
01	0		0	0
11	0	0	0	0
10			0	

Group x (circled cells: (0,1), (1,0), (1,1), (1,2), (2,1), (2,2), (2,3), (3,2))

Group y (circled cells: (1,0), (1,1), (1,2), (1,3))

Group z (circled cells: (0,1), (1,0), (1,1), (1,2))

Final Answer:

$$F(A, B, C, D) = (\bar{B} + D)(\bar{A} + \bar{B})(\bar{C} + \bar{D})$$

$$\begin{aligned} \text{Group } x &= (\bar{B} + D) \\ y &= (\bar{A} + \bar{B}) \\ z &= (\bar{C} + \bar{D}) \end{aligned}$$