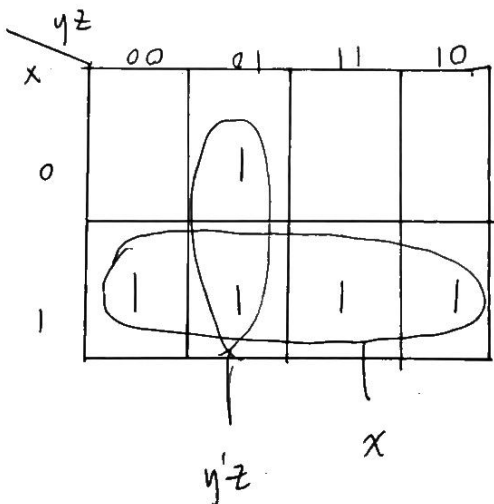


$$2 \quad F(x, y, z) = xy' + y'z + xz + xyz'$$

truth table

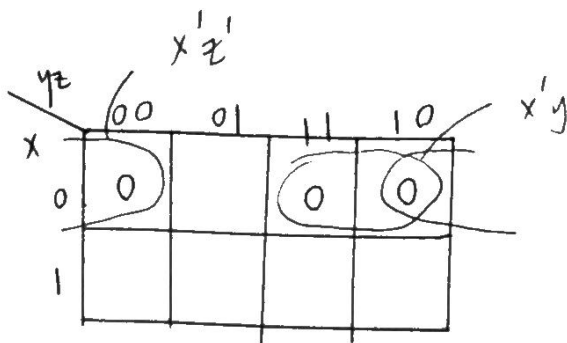
x	y	z	F
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	0
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1

k map.



2 (a)  $F = x + y'z$

(b)



$$F' = x'z' + x'y$$

$$F = (F')' = (x'z' + x'y)'$$

$$= (x + z)(x + y')$$

The figure displays a digital logic timing diagram with four signals: F, X, Y, and Z. The horizontal axis represents time in nanoseconds (ns), ranging from 0 to 100 ns with major grid lines every 10 ns and minor grid lines every 2 ns. The vertical axis represents the signal level, with high (1) indicated by a dark blue bar and low (0) by a light blue bar. A yellow cursor is positioned at 0.005 ns.

Signal	0 ns	10 ns	20 ns	30 ns	40 ns	50 ns	60 ns	70 ns	80 ns	90 ns	100 ns
F	1	1	0	0	1	1	1	0	0	0	0
X	0	1	1	0	1	1	0	0	0	0	0
Y	0	0	1	1	0	0	1	1	0	0	0
Z	0	0	0	1	1	0	0	1	1	0	0

