United International University

Department of CSE

Course Code: Cse1325

Course Name: Digital Logic Design

Section : K

Mid Assignment no.2

Deadline: 24 September 2024

Submitted To

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Assignment-2

Ans. to the ques. no: 5

(A)

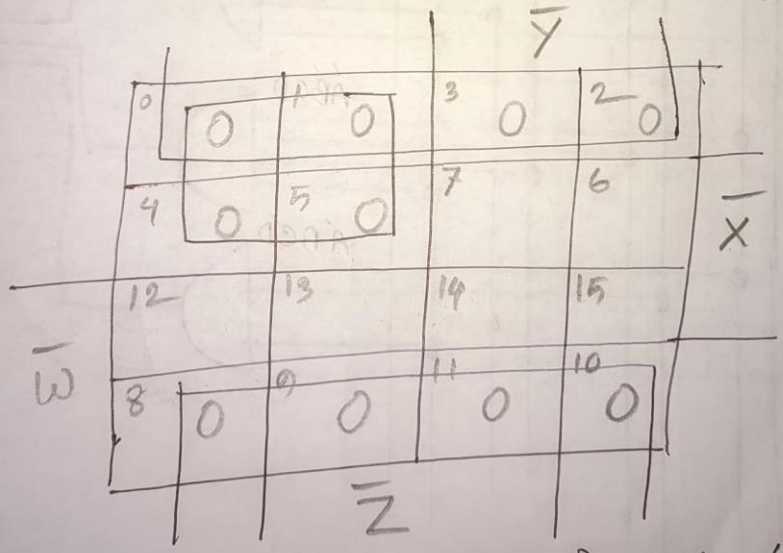
$$F(x,y,z) = wxz + wxz' + w'xy.$$

$$= wxz(y+y') + wxz'(y+y') + w'xy(z+z')$$

$$= wxyz + wxy'z + wxyz' + wxy'z' + w'xyz + w'xyz'$$

$$= \sum_m (15, 13, 14, 12, 7, 6)$$

$$= \prod_M (0, 1, 2, 3, 4, 5, 8, 9, 10, 11)$$



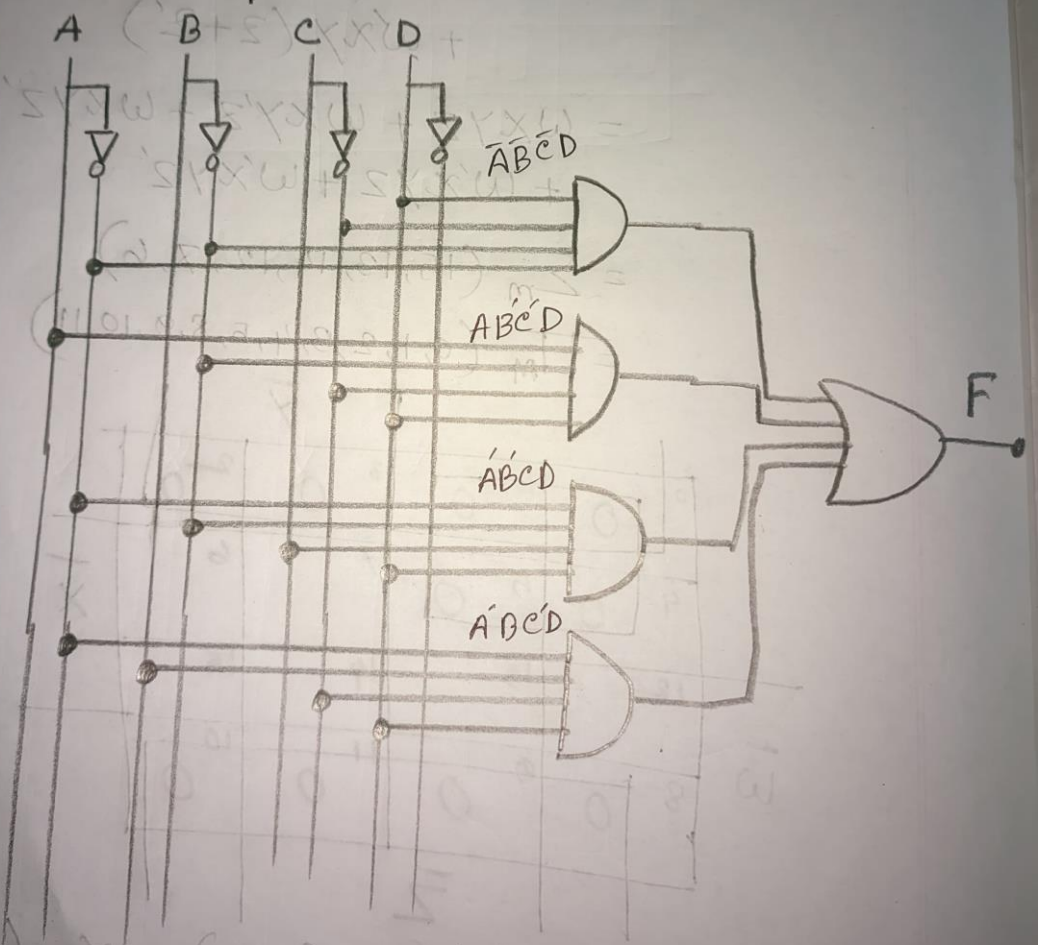
∴ Product of Sum (POS) $= x \cdot (w+y)$

Ans

(B)

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

∴ PLA

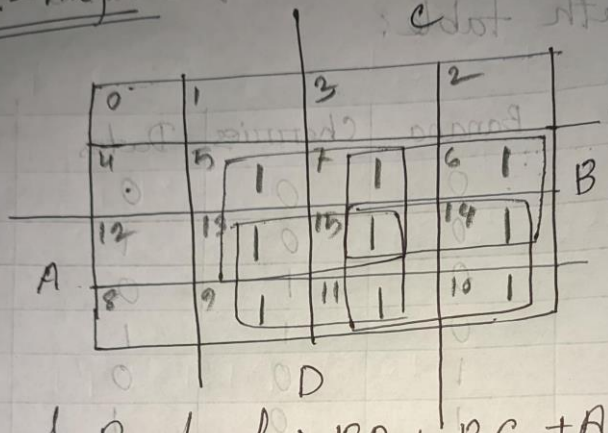


Ans. to the ques. no: 6

① Truth table:

Apple	Banana	Cherries	Dates	F
0	0	0	0	0
0	0	0	1	0
0	0	1	0	0
0	0	1	1	0
0	1	0	0	0
0	1	0	1	1
0	1	1	0	1
0	1	1	1	1
1	0	0	0	0
1	0	0	1	1
1	0	1	0	1
1	0	1	1	1
1	1	0	0	0
1	1	0	1	1
1	1	1	0	1
1	1	1	1	1

(ii) K-map:



Sum-of-Product: $BD + BC + AD + AC$

(iii)