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Date: / /

Name

M. Rahman

Roll No

BCSF23M532

1) ~~B~~

8 4 -2 -1

to BCD Converter

A B C D

8 4 -2 -1

W X Y Z

m0	0	0	0	0	0	0	0	0
m1	0	1	1	1	0	0	0	1
m2	0	1	1	0	0	0	1	0
m3	0	1	0	1	0	0	1	1
m4	0	1	0	0	0	1	0	0
m5	1	0	1	1	0	1	0	1
m6	1	0	1	0	0	1	1	0
m7	1	0	0	1	0	1	1	1
m8	1	0	0	0	1	0	0	0
m9	1	1	1	1	1	0	0	1
	+	+	+	+				

$$W = \Sigma (8, 15)$$

$$X = \Sigma (4, 11, 10, 9, 8)$$

$$Y = \Sigma (6, 5, 10, 9)$$

$$Z = \Sigma (7, 5, 11, 9, 15)$$

$$d = \Sigma (1, 2, 3, 12, 13, 14)$$

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Mon Tue Wed Thu Fri Sat

W \	$\bar{C}\bar{D}$	$\bar{C}D$	$CD$	$C\bar{D}$
$\bar{A}\bar{B}$		X	X	X
$\bar{A}B$				
$AB$	X	X	1	X
$A\bar{B}$	1			

$$W = A\bar{B} + A\bar{C}\bar{D}$$

X \	$\bar{C}\bar{D}$	$\bar{C}D$	$CD$	$C\bar{D}$
$\bar{A}\bar{B}$		X	X	X
$\bar{A}B$	1			
$AB$	X	X		X
$A\bar{B}$		1	1	1

$$X = B\bar{C}\bar{D} + AD + A\bar{B}C$$

$$X = B\bar{C}\bar{D} + \bar{B}D + \bar{B}C$$

Y \	$\bar{C}\bar{D}$	$\bar{C}D$	$CD$	$C\bar{D}$
$\bar{A}\bar{B}$		X	X	X
$\bar{A}B$		1		1
$AB$	X	X	X	X
$A\bar{B}$		1		1

$$Y = \bar{C}D + C\bar{D}$$

Z \	$\bar{C}\bar{D}$	$\bar{C}D$	$CD$	$C\bar{D}$
$\bar{A}\bar{B}$		X	X	X
$\bar{A}B$		1	1	
$AB$	X	X	1	X
$A\bar{B}$		1	1	

$$Z = D$$

Circuits:

