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ASSIGNMENT-02

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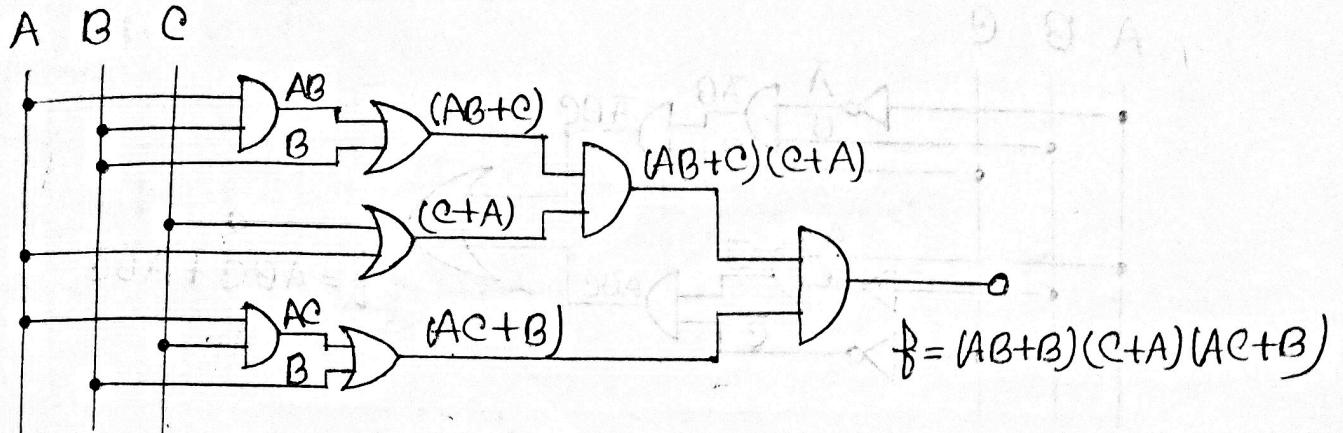
Course : CSE231

Section : 10

Submitted to : Dr. Mohammad Moniruzzaman Khan

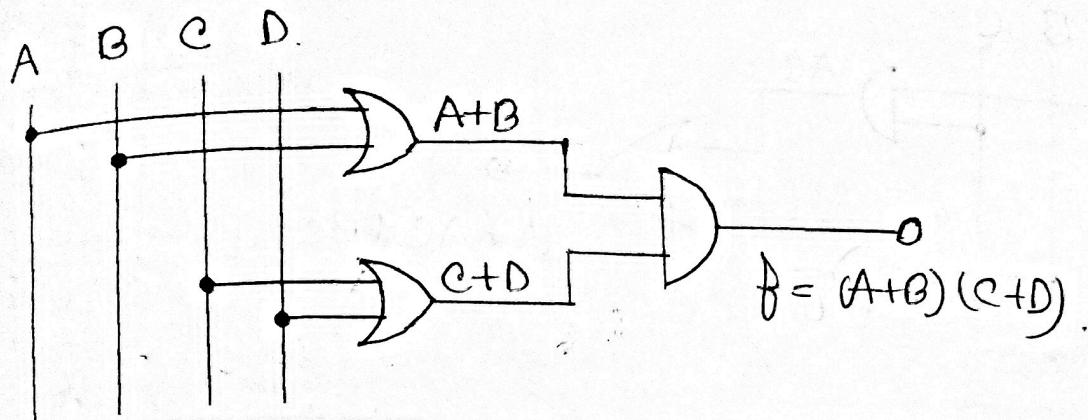
Date : 05-03-2021.

$$(1) f = (AB+B)(C+A)(AC+B)$$



(3)

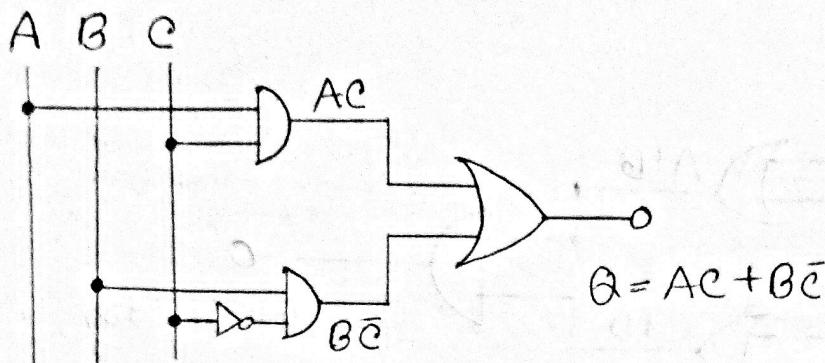
$$(3) F = (A+B)(C+D)$$



A	B	C	D	$A+B$	$C+D$	$(A+B)(C+D)$
0	0	0	0	0	0	0
0	0	0	1	0	1	0
0	0	1	0	0	1	0
0	0	1	1	0	1	0
0	1	0	0	1	0	0
0	1	0	1	1	1	1
0	1	1	0	1	1	1
0	1	1	1	1	1	1
1	0	0	0	1	0	0
1	0	0	1	1	1	1
1	0	1	0	1	1	1
1	0	1	1	1	1	1
1	1	0	0	1	0	0
1	1	0	1	1	1	1
1	1	1	0	1	1	1
1	1	1	1	1	1	1

(6)

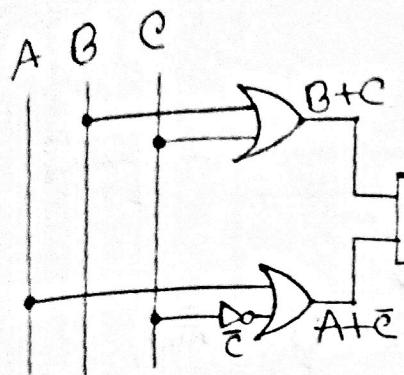
$$(4) Q = AC + B\bar{C}$$



A	B	C	\bar{C}	AC	$B\bar{C}$	$AC + B\bar{C}$
0	0	0	1	0	0	0
0	0	1	0	0	0	0
0	1	0	1	0	1	1
0	1	1	0	0	0	0
1	0	0	1	0	0	0
1	0	1	0	1	0	1
1	1	0	1	0	1	1
1	1	1	0	1	0	1

(6)

$$(5) Q = (B+C)(A+\bar{C})$$



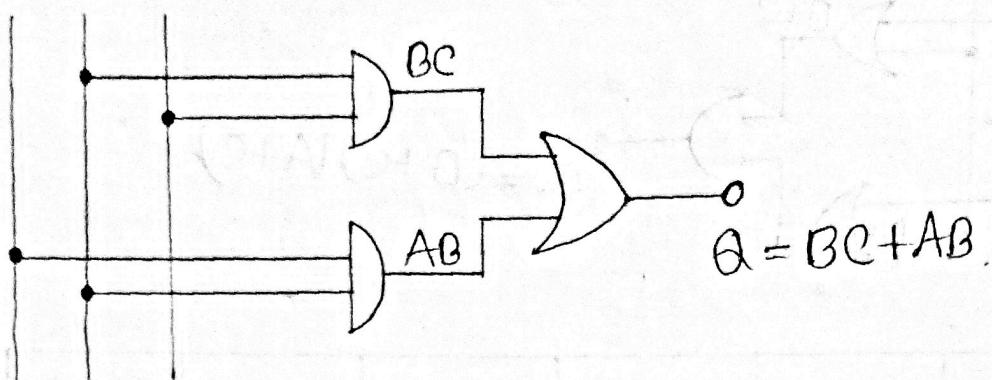
$$Q = (B+C)(A+\bar{C})$$

A	B	C	\bar{C}	$(B+C)$	$(A+\bar{C})$	$(B+C)(A+\bar{C})$
0	0	0	1	0	1	0
0	0	1	0	1	0	0
0	1	0	1	1	1	1
0	1	1	0	1	0	0
1	0	0	1	0	1	0
1	0	1	0	1	1	1
1	1	0	1	1	1	1
1	1	1	0	1	1	1

(A)

$$(6) Q = BC + AB$$

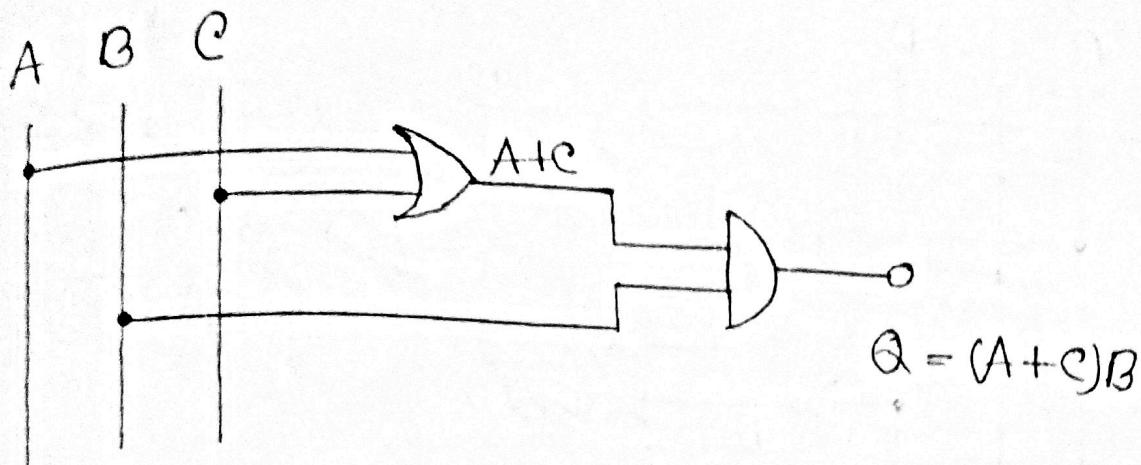
A B C



A	B	C	BC	AB	$BC + AB$
0	0	0	0	0	0
0	0	1	0	0	0
0	1	0	0	0	0
0	1	1	1	0	1
1	0	0	0	0	0
1	0	1	0	0	0
1	1	0	0	1	1
1	1	1	1	1	1

$$(7) Q = (A+C)B.$$

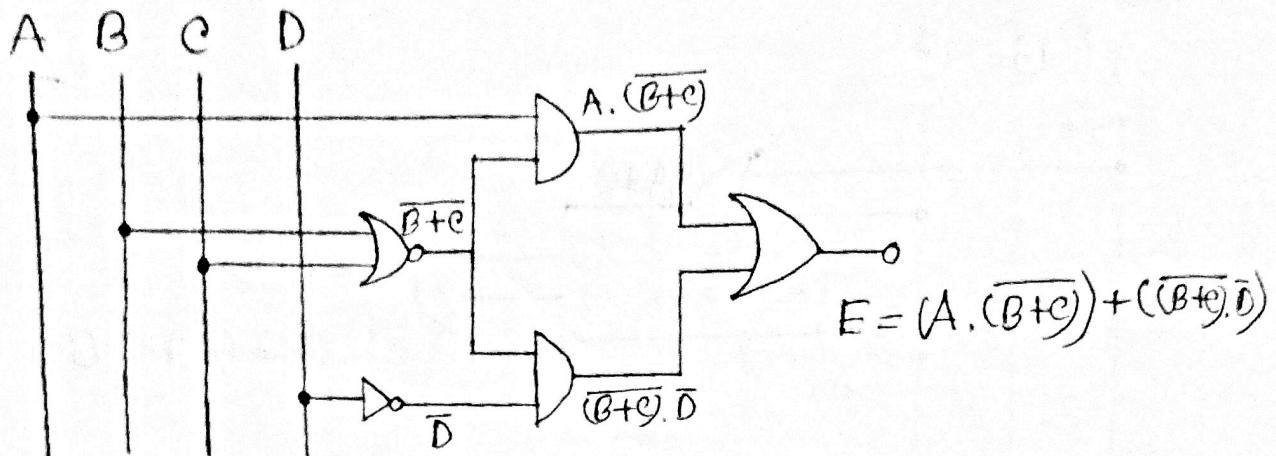
(v)



A	B	C	$A+C$	$(A+C)B$
0	0	0	0	0
0	0	1	1	0
0	1	0	0	0
0	1	1	1	1
1	0	0	1	0
1	0	1	1	0
1	1	0	1	1
1	1	1	1	1

(9)

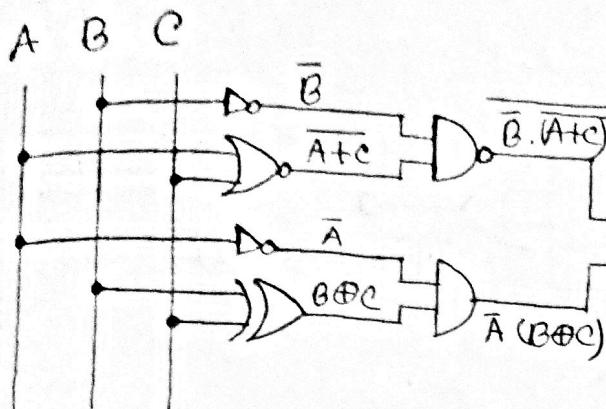
$$(8) E = (A \cdot (\overline{B+C})) + ((\overline{B+C}) \cdot \overline{D})$$



A	B	C	D	\overline{D}	$(B+C)$	$(A \cdot (\overline{B+C}))$	$((\overline{B+C}) \cdot \overline{D})$	$(A \cdot (\overline{B+C})) + ((\overline{B+C}) \cdot \overline{D})$
0	0	0	0	1	1	0	1	1
0	0	0	1	0	1	0	0	0
0	0	1	0	1	0	0	0	0
0	0	1	1	0	0	0	0	0
0	1	0	0	1	0	0	0	0
0	1	0	1	0	0	0	0	0
0	1	1	0	1	0	0	0	0
0	1	1	1	0	0	0	0	0
1	0	0	0	1	1	1	1	1
1	0	0	1	0	1	1	0	1
1	0	1	0	1	0	0	0	0
1	0	1	1	0	0	0	0	0
1	1	0	0	1	0	0	0	0
1	1	0	1	0	0	0	0	0
1	1	1	0	1	0	0	0	0
1	1	1	1	0	0	0	0	0

No

$$(9) Y = (\overline{B} \cdot (\overline{A} + C)) + (\bar{A} \cdot (B \oplus C))$$

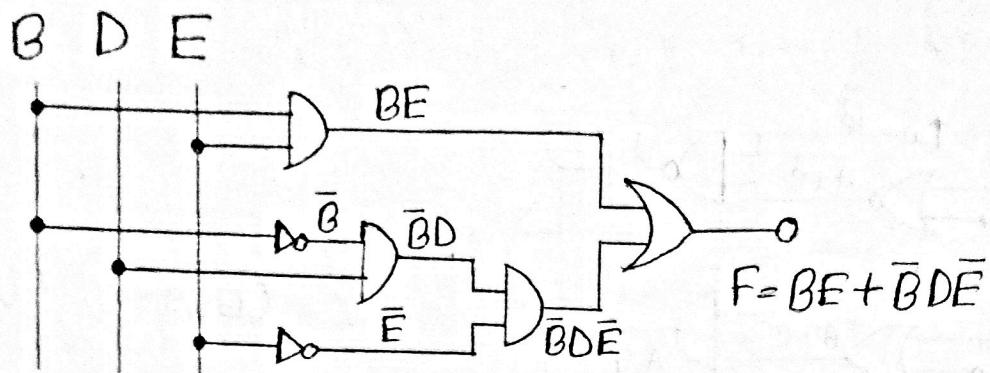


$$Y = (\overline{B} \cdot (\overline{A} + C)) + (\bar{A} \cdot (B \oplus C))$$

A	B	C	\bar{A}	\bar{B}	$A+C$	$\overline{A+C}$	$B \oplus C$	$\overline{B(A+C)}$	$(\bar{A} \cdot (B \oplus C))$	$(\overline{B} \cdot (\overline{A} + C)) + (\bar{A} \cdot (B \oplus C))$
0	0	0	1	1	0	1	0	0	0	0
0	0	1	1	1	1	0	1	1	1	1
0	1	0	1	0	1	1	1	1	1	1
0	1	1	1	0	1	0	0	1	0	1
1	0	0	0	1	1	0	0	1	0	1
1	0	1	0	1	1	0	1	1	0	1
1	1	0	0	1	1	0	1	1	0	1
1	1	1	0	1	1	0	0	1	0	1

M

$$(10) F = BE + \bar{B}D\bar{E}$$



B	D	E	BE	$\bar{B}D$	$\bar{B}D\bar{E}$	$BE + \bar{B}D\bar{E}$
0	0	0	0	0	0	0
0	0	1	0	0	0	0
0	1	0	0	1	1	1
0	1	1	0	1	0	1
1	0	0	0	0	0	0
1	0	1	1	0	0	0
1	1	0	0	0	0	0
1	1	1	1	0	0	0