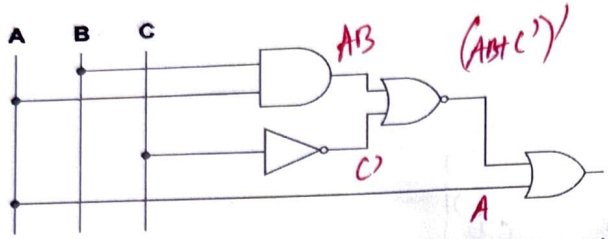
BRAC UNIVERSITY
Inspiring Excellence

CSE260: Digital Logic Design
Summer 2025
Quiz - 02
Duration: 30 minutes

B

Name:	ID:	Section:

1.CO2	 a. Determine the Logic function of the above circuit. b. Simplify the function you obtained in part(a) using Boolean algebra	5
2.CO2	Convert the Boolean function to its Canonical POS form. F(A,B,C) = C' + A⊕B	5
3.CO2	F(A,B,C,D)=Σ(0,1,2,3,5,6,7,10,11,13,15) Use Karnaugh Map to find the simplified expression.	5

1) a) $A + (AB + C')'$

b) $A + \bar{A}\bar{B} \cdot C$

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

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

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

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

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

$= A + C$

2). $F = C' + A \oplus B$

$= C' + A'B + AB'$

$= (C' + A'B + A)(C' + A'B + B')$

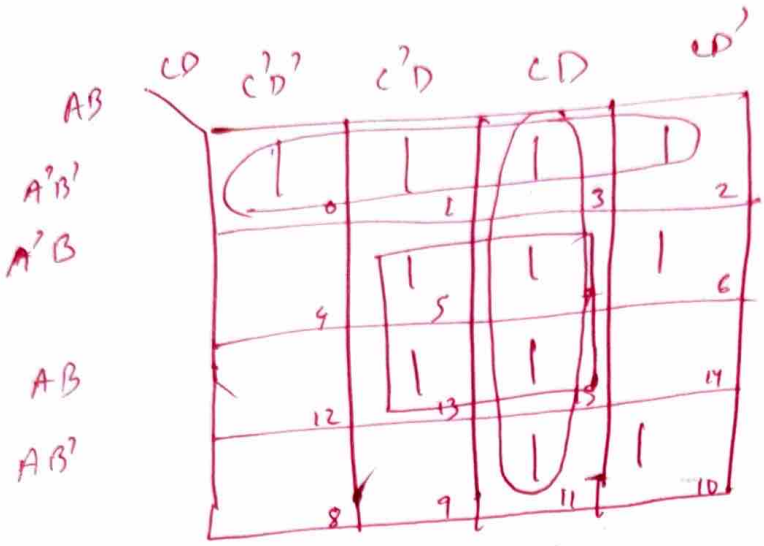
$= (A + C' + A')(A + C' + B)(B' + C' + A')(B' + C' + B)$

$= (A + B + C')(A' + B' + C')$

$= 001, 111$

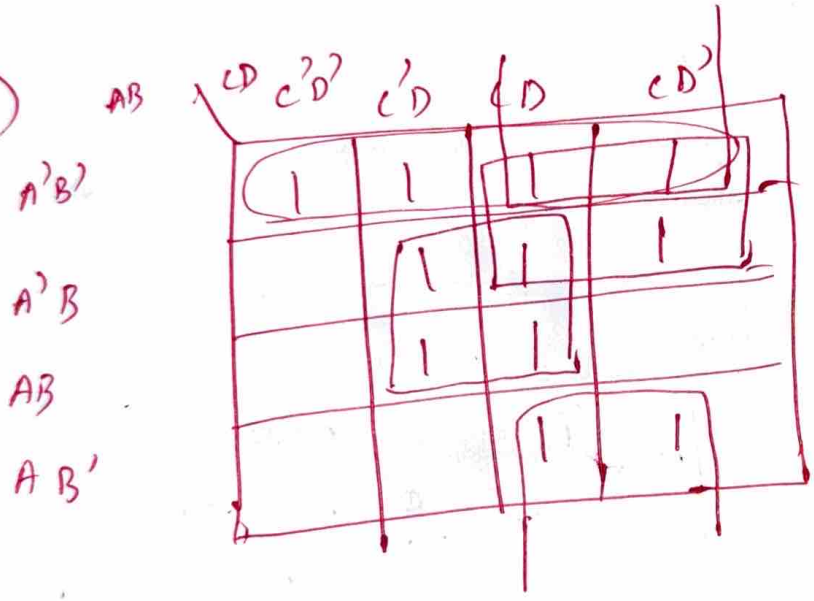
$= \Pi(1, 7)$

3)



⇒ This approach will take 5 groups

3)



⇒ This approach will take 4 groups

$$F = A'B' + BD + A'C + B'C$$