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Name Solution CM 111 Due date: Monday, Sept. 22

ECE130-01 Homework #6 (Kmaps) Fall 2003

1 (Adapted from Problem 9 on page 43 of Dr. Eccles' book).
Minimize Z(A,B,C)=Σ(1,4,5,6,7) into And-Or logic (Sum of Products).

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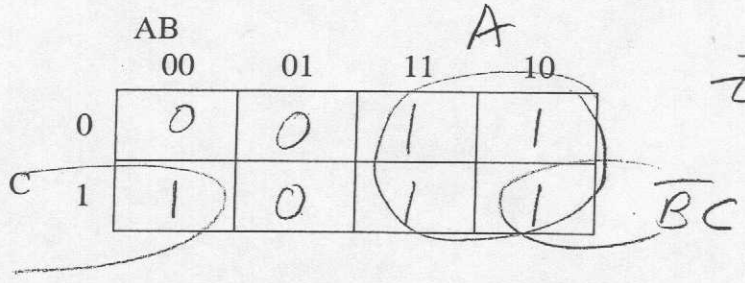

$Z = A + \bar{B}C$

2 (Adapted from Problem 12 on page 43 of Dr. Eccles' book).
Minimize Z(A,B,C,D)=Σ(2,3,4,5,10,11,12,13,14,15) into And-Or logic (Sum of Products). If there are multiple minimal forms, give them all.

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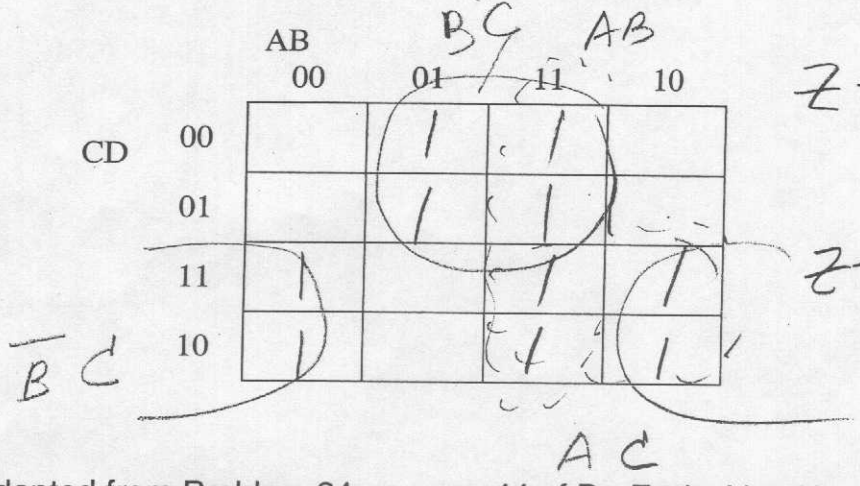

$Z = B\bar{C} + \bar{B}C + AB$ (5)

OR

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

3 (Adapted from Problem 24 on page 44 of Dr. Eccles' book).
Minimize Z(S3,S2,S1,S0)=Π(1,3,5,9,12)+d(2,6,8,14) into And-Or logic (Sum of Products). If there are multiple minimal forms, give them all.

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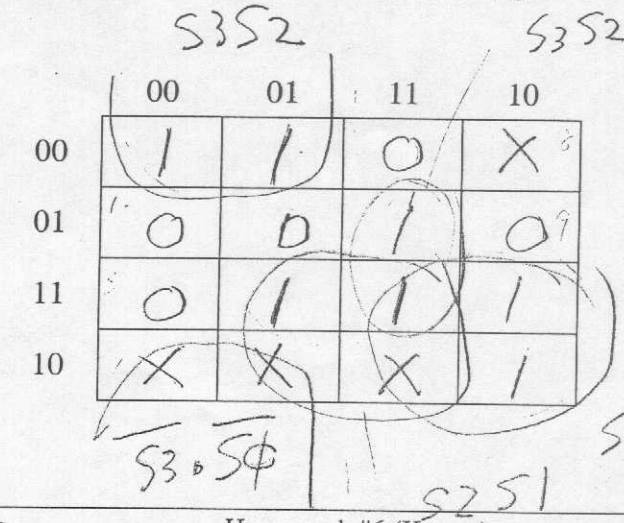
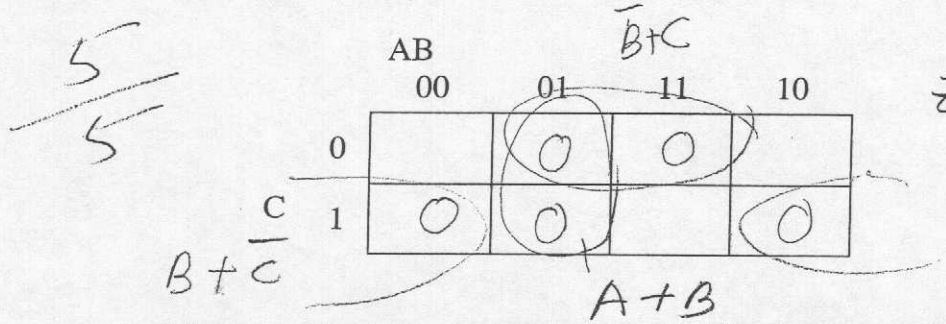


$Z = \bar{S3}\cdot\bar{S0} + S2S1 + S3S1 + S3S2S0$

(-2 for each error.)

4 (Adapted from Problem 15 on page 43 of Dr. Eccles' book).
Minimize Z(A,B,C)=Π(1,2,3,5,6) into Or-And logic (Product of Sums). (Notice the pi notation.)



5 Minimize Z(a3,a2,a1,a0)= Σ (4,5,12,14)+d(0,6,8,13,15) into Or-And logic (Product of Sums). (Notice the Σ notation.)