Test1 CSCI 3250 Spring2021 **Regular Test Time: 60 minutes**

Instructions: 1. You should answer all the questions in the space provided after each question.

2. You should show all of your work step by step to receive full credit.

3. You should email your answers today at the end of test time by replying to this

message and attaching the completed test.

4. The Subject Line on your reply email should include:

RE: Test1 Spring 2021 CSCI 3250 First Name Last Name Z#

5. Your Test1 should be returned in a WORD document.

I . A. Convert the following number to base 16.

(101110111.10)2

B.completethe following subtraction in Base 2:

(11011000)2

- (10111111)2

II. Prove/Disprove the identity of the following Boolean equation, using algebraic manipulation:

(XY + Z )( Y + XZ)+ XY = X (Y +Z) +Z (X +Y)

III. Optimize the following Boolean function by means of a 4-variablw map:

*F*(A, B, C, D)= ∑*m* (0, 2, 4, 7,8, 10, 12, 13, 15)

IV. Show the following Boolean expression using the Venn diagram:

ABC+A(B+C)