Name_____

CSE222 Computer Architecture

Quiz 02

1. Design a circuit that has a 3-bit binary input and a single output (Y) as specified in followings:
   - Y = 0 if the inputs is less than $(5)_{10}$
   - Y = 1 if the inputs is greater than or equal to $(5)_{10}$

   (a) Specify the function in truth table

   (b) Describe the function in Boolean expression in SOP form, then simplify this Boolean equation, build the circuit using logical gates

   (c) Draw the Logical Diagrams in other functional circuits:

   (c1) Build the circuit using 4:1 multiplexer

   (c2) Build the circuit using 2:1 multiplexer(s)

   (c3) Build the circuit using 3:8 decoder