Name:___________________________________________

CSCI-GA.1144 Spring 2012

Sample Quiz

Please write all answers on this sheet.

1. Powers of 2
   a) Multiple Choice: Please circle the correct answer.
      i.  \(2^7 = 64 \ 128 \ 256 \ 512\)
      ii. \(2^{13} = 4K \ 8K \ 4M \ 8M\)
      iii. \(2^{29} = 128M \ 512M \ 256G \ 512G\)
   b) Fill in the blank: Another way to write \(2 \times 2^x \times 2^y\) is ________________.
   c) A 39-bit number can take on how many different values? Answer: ____________.

2. Logs
   a) Multiple Choice: Please circle the correct answer.
      i. \(\log_2 4G = 21 \ 22 \ 32 \ 33\)
      ii. \(\log_2 64K = 14 \ 15 \ 16 \ 19\)
      iii. \(\log_2 256 = 0 \ 2 \ 8 \ 9\)
   b) Fill in the blank: Another way to write \((\log_2 x) + (\log_2 y)\) is _______________.
   c) If a memory contains 64GB (64G bytes) and each byte is individually addressable, how many bits must an address contain in order to reference any byte of the memory? Answer: ____________.

3. Binary/Hex/Decimal
   a) Multiple Choice. Please circle the correct answer.
      i. 11 decimal equals what in binary?  1000  1001  1011  1110
      ii. 1101 binary equals what in decimal?  9  11  13  15
      iii. D hex equals what in decimal?  11  12  13  14
   b) How would the binary number 1100010011101001 be written in hex? Answer: ________________.
   c) How would D4E5 hex be written in binary? Answer: ________________.