Code :R7210504

R7

II B.Tech I Semester (R07) Supplementary Examinations, November 2010
DIGITAL LOGIC DESIGN
(Computer Science & Engineering, Information Technology, Computer Science & Systems
Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions
All questions carry equal marks
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1. (a) What is the gray code equivalent of the Hex Number 3A7.

   (b) Find the biquinary number code for the decimal numbers from 0 to 9.

   (c) Find 9's complement $(25.639)_{10}$.

   (d) Find (72532 - 03250) using 9's complement.

2. (a) Prove that if w'x + yz' = 0,then
   Wx + y'(w' + z') = wx + xz + x'z' + w'y'z

   (b) Factor to obtain a Product of Sums(simplify where possible)
   i)BCD + C'D' + B'C'D + CD

   (c) Consider the expression Z=(A ex-or B ex-or C ex-or D ex-or . . . .).Show that Z=1
   if an odd number of variables are 1 and that Z=0 if an even number of variables are 1.

3. (a) Implement Half adder using 4 NAND gates.

   (b) Implement full subtrctor using NAND gates only.

4. Design 4 digit BCD adder using 7483 adders.

5. Explain about Analysis of Clocked Sequential Circuits in Detail?

6. Explain about 4-bit synchronous binary counter?

7. Explain about:

   (a) Write and Read operations

   (b) Memory description in HDL

8. Define Latch Excitation table? Explain its implementation with an Example?