VIT UNIVERSITY
(Estd. u/s 3 of UGC Act 1956)
VELLORE ■ CHENNAI
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School of Information Technology and Engineering
Continuous Assessment Test – 1
Course Code: SWE1003
Course Name: Digital Logic and Microprocessor
M.Tech., Software Engineering

Slot : C1+TC1

Common to all batches

Date: 23.02.2017
Time: 1 hr 30 min **Max. Marks: 50**

Answer All questions
PART-A (4*5=20 Marks)

1. Express the function in sum-of-minterms form:
   $x' + x(x + y')(y + z')$
2. Convert the following hexa decimal number to octal, binary and decimal.
   $(DADA.B)_{16}$
3. Give the NAND implementation of the following function .
   $F = xy + x'y' + y'z$
4. Simplify the following Boolean Expression using K-Map.
   $F(A, B, C, D) = \Pi (11, 3, 6, 9, 11, 12, 14)$

PART-B (3*10=30 Marks)

5. Design a combinational circuit with three inputs and one output. The output is 1 when the binary value of the inputs is less than 3. The output is 0 otherwise.
6. Implement a circuit using 4*1 multiplexer for detecting if the input 4-bit binary number is divisible by 2 or not.
7. Design a simple logic circuit for a house alarm. The alarm protects the front and back doors and 2 windows. If any one of the doors or windows is opened the alarm blows or if more than one is open then the alarm blows.

*****ALL THE BEST *****