Exam.Code:0975
Sub. Code: 34648

2125

M. Tech. (Micro-Electronics)

First Semester

MIC-109: Hardware Description Language

Time allowed: 3 Hours Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

1. Answer the following:-
   a) What is digital system design?
   b) Name the different types of operations in HDL.
   c) Differentiate between signal assignment and variable assignment statements.
   d) Discuss the precedence of operators.
   e) Explain the trends in HDLs? (5x2)

UNIT - I

2. With syntax explains conditional, branching and loop statements available in VHDL behavioural description. (10)
3. Apply the Bottom-up design methodology to demonstrate the design of 4-bit ripple carry adder. (10)
4. List and explain the advantages and shortcomings of using VHDL? (10)

UNIT - II

5. What are the Subprograms in VHDL? Explain them in brief with suitable example.(10)
6. Write Verilog HDL program to simulate traffic signal controller. Also write the stimulus for the same. (10)
7. Define the term' State Machine'. Write Verilog HDL program of 4-bit asynchronous up counter. (10)

x-x-x