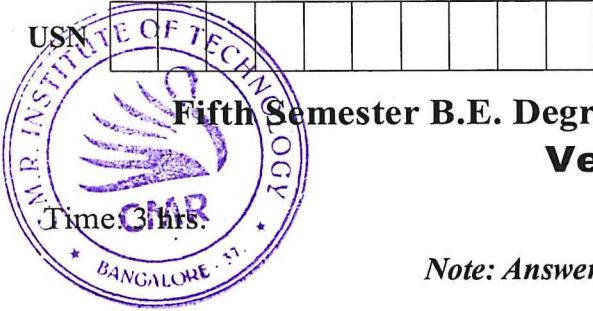


CBCS SCHEME

17EC53



Fifth Semester B.E. Degree Examination, July/August 2021

Verilog HDL

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Explain the typical design flow for designing VLSI IC circuits. (10 Marks)
b. Discuss the evaluation of computer aided design. (05 Marks)
c. Explain top-down design methodology. (05 Marks)
- 2 a. Discuss modules, instances with the help of 4-bit ripple carry counter example. (10 Marks)
b. Describe instance and instantiation with example. (05 Marks)
c. Explain stimulus and design block with an example. (05 Marks)
- 3 a. Discuss the data types used in verilog with an example. (10 Marks)
b. Explain system task and compiler directives in verilog. (10 Marks)
- 4 a. Explain components of verilog module with an example. (10 Marks)
b. Explain port declaration, port connection rules and connecting ports to external signals. (10 Marks)
- 5 a. Write a verilog gate level description for 4:1 multiplexes also write stimulus block. (10 Marks)
b. Explain rise delay, fall delay, turn off delay, min value, typical value and max value. (10 Marks)
- 6 a. Describe continuous assignment statement and implicit continuous assignment statement. (10 Marks)
b. Explain arithmetic and logical operators with example. (10 Marks)
- 7 a. Explain blocking and non blocking procedural assignment in behavioral modeling. (10 Marks)
b. Describe event-based-timing control mechanism in behavioral modeling. (10 Marks)
- 8 a. Explain conditional statements. Using if and else write a verilog HDL program for D_FF. (10 Marks)
b. Describe multiway branching. Use case statement and write verilog program for 3-bit binary counter. (10 Marks)
- 9 a. Why we use VHDL? What are the short comings of VHDL? (10 Marks)
b. Describe the design in VHDL. (10 Marks)
- 10 a. Discuss the basic building block of VHDL design with an example of dataflow/behavioral description. (10 Marks)
b. Write a VHDL description for 4 bit ripple carry adder, also write the circuit diagram for same. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.