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Total No. of Questions: 09

Total No. of Pages: 02

B.Tech.(ECE/ETE)(Sem.6)

VLSI DESIGN

Subject Code: BTEC-604

Paper ID: A2318

Time: 3 Hrs.

Max. Marks: 60

INSTRUCTION TO CANDIDATES:

1. Section A is **COMPULSORY** consisting of **TEN** Questions carrying **TWO** marks each.
2. Section B contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. Section C contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION A

1. Write in brief
 - a) Explain the types of delays in VHDL
 - b) Compare between function and procedure
 - c) What are PULL UP and PULL DOWN networks
 - d) How is generic statement useful in VHDL code
 - e) Differentiate between signal and variable
 - f) Write and explain VHDL code using CASE statement
 - g) Differentiate between library and package
 - h) Describe if else statement
 - i) Write the VHDL code for half adder
 - j) What is power dissipation

SECTION B

2. Explain shift and rotate operations in VHDL with example
3. Explain the switching characteristics delay model
4. Write the VHDL code for 3 bit Binary to Gray converter.

5. Write the VHDL code for 8: 3 decoder using if else statement
6. What is scaling. What is the effect of scaling on the circuit performance

SECTION C

7. Write VHDL code for 3- bit binary asynchronous up converter
8. Draw CMOS inverter. Discuss its DC characteristics. Write the condition for the different region of operations
9. Write the VHDL code for 8:1 MUX using structural modeling