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121061-B

6th Sem. / ECE

Subject : VLSI System Design

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

Q.1 a) _____ is an example of Hardware description language.

b) What is the use of simulation tool?

c) Define Identifier.

d) Write syntax of Object declaration.

e) Name any two types of operators.

f) Write syntax of process statement.

g) VLSI stands for _____.

h) What is the use of "if statement"?

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

Q.3 What do you understand by Data types? What are different categories of data types? Explain with examples.

Q.4 Draw data flow model of 4-to-1 Multiplexer using Conditional Signal assignment statement.

Q.5 Design a BCD to seven segment decoder using VHDL.

Q.6 Explain VHDL model and simulation of shift register.

Q.7 What is FPGA? Draw and explain block diagram of FPGA.

i) In combinational circuits, the present output depends upon present inputs and previous output. (True/false)

j) What is PEEL?

k) Define classes.

l) FPGA stands for _____.

m) What is VHDL?

n) What are the advantages of FPGA?

o) Define entity.

p) What is the role of compiler in VHDL?

q) Define subprogram overloading.

r) What is structural modelling?

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

Q.2 i) Write a short note on "Overview f VLSI".

ii) What is the role of VHDL in circuit design?

iii) What is the role of place & route tool?

iv) What do you understand by Entity declaration?

v) What is data object? What are its types?

vi) Write a short note on "Data Types".

vii) Write a short note on "Operators in VHDL".

viii) Write behaviour model for D flip-flop using "basic form of if statement".

ix) Explain the concept of concurrent statements.

x) Write a short note on "Programmable logic devices".

xi) Write VHDL code for T flip flop.

xii) Draw block diagram of CPLD.

xiii) Write VHDL code for 4:1 multiplexer.

xiv) Write a short note on "FPAA (field programmes analog array)".

xv) Explain PLA with the help of diagram.