

FUNDAMENTALS OF HDL (Common to EC/TC/IT/BM/ML)

Written by Administrator
Friday, 06 November 2009 14:33 -

Sub Code

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06EC45

IA Marks

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25

Hrs/ Week

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04

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Exam Hours

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03

Total Hrs.

:

52

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Exam Marks

:

100

PART-A

UNIT 1:

□ **Introduction:** Why HDL? , A Brief History of HDL, Structure of HDL Module, Operators, Data types, Types of Descriptions, simulation and synthesis, Brief comparison of VHDL and Verilog

6 Hours

UNIT 2:

Data –Flow Descriptions: Highlights of Data-Flow Descriptions, Structure of Data-Flow Description, Data Type – Vectors

6 Hours

UNIT 3:

Behavioral Descriptions: Behavioral Description highlights, structure of HDL behavioral Description, The VHDL variable –Assignment Statement, sequential statements.

7 Hours

UNIT 4:

Structural Descriptions: Highlights of structural Description, Organization of the structural Descriptions, Binding, state Machines, Generate, Generic, and Parameter statements.

7 Hours

PART-B

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UNIT 5: Procedures, Tasks, and Functions: Highlights of Procedures, tasks, and Functions, Procedures and tasks, Functions.

Advanced HDL Descriptions: File Processing, Examples of File Processing

7 Hours

UNIT 6:

Mixed –Type Descriptions: Why Mixed-Type Description? VHDL User-Defined Types, VHDL Packages, Mixed-Type Description examples

6 Hours

UNIT 7:

Mixed –Language Descriptions: Highlights of Mixed-Language Description, How to invoke One language from the Other, Mixed-language Description Examples, Limitations of Mixed-Language Description

7 Hours

UNIT 8:

Synthesis Basics: Highlights of Synthesis, Synthesis information from Entity and Module, Mapping Process and Always in the Hardware Domain.

6 Hours

Text Books:

1. **HDL Programming (VHDL and Verilog)**- Nazeih M.Botros- Dreamtech Press
2. (Available through John Wiley – India and Thomson Learning) 2006 Edition

Reference Books:

1. **Verilog HDL** –Samir Palnitkar-Pearson Education
2. **VHDL** -Douglas perry-Tata McGraw-Hill
3. **A Verilog HDL Primer**- J.Bhaskar – BS Publications
4. **Circuit Design with VHDL**-Volnei A.Pedroni-PHI