7E4240

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B.Tech. (Sem. VII) (Main) Examination, Nov-Dec - 2011
Computer Science
7CS4 Computer Aided Design for VLSI

Time : 3 Hours

Total Marks : 80
Min. Passing Marks : 24

Attempt any five questions, selecting one question from each unit. All questions carry equal marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.)

UNIT - I

1. Explain Abstraction levels of a circuit representation and also discuss corresponding views with the help of circuit example. **(16)**

OR

1. What do you understand by circuit optimization. Explain it' need and the process. **(16)**

UNIT - II

2. What is Boolean function, also discuss it's representation classified in tabular, logic Expression and BDDs. **(16)**

OR

2. What is satisfiability of Boolean function and how covering problems are associated with this. Explain by Algorithms. **(16)**

UNIT - III

3. With the help of a state diagram of hard wired control unit. Explain control unit synthesis. **(16)**

OR

3. Explain importance of scheduling in Architectural synthesis. Discuss ALAP scheduling algorithm. **(16)**

UNIT - IV

4. Explain Resource sharing in hierarchical sequencing graphs. **(16)**

OR

4. What do you understand by a cover of Boolean function. What is minimum and minimal cover. Also explain major principles of heuristic logic Minimization. **(16)**

UNIT - V

5. Write short notes on following.

(a) Floor plan

(b) Placement **(8×2)**

OR

5. Write short notes on following:

(a) Global Routing Methods.

(b) Channel Routing Algorithms. **(8×2)**