

7E4240

Roll No. : \_\_\_\_\_

Total Printed Pages : 3

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B. Tech. (Sem. VII) (Main) Examination, December-2012  
Computer Engg.  
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.*

Use of following supporting material is permitted during examination.  
(Mentioned in form No. 205)

1. \_\_\_\_\_ Nil

2. \_\_\_\_\_ Nil

UNIT - I

1 What is Moore's law ? Explain the design styles in detail. With the comparison in the performance and design measures of different design styles.

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OR

1 Explain programmable logic devices in detail. Also explain the design flow process of microelectronic circuit with the appropriate diagram.

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UNIT - II

2 Consider the given function

$$f = ab + bc + ca$$

Find out the cofactor's with respect to 'C' also find the Boolean derivative consensus and smoothing also represent these all in 3D Boolean space.

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OR

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1

[Contd...

- 2 (a) Explain Data flow graph and sequencing graph's with the help of an appropriate example. 8
- (b) What is optimization ? Explain the optimization techniques for digital circuits. 8

UNIT - III

- 3 (a) Describe Resources and constraints in detail. 6
- (b) Explain latency constrained scheduling and resource constrained scheduling with the help of an example. 10

OR

- 3 (a) What is synchronization problem ? Explain with the help of an example.. 6
- (b) Explain Integer linear programming model in detail. 10

UNIT - IV

- 4 (a) Write the algorithm for exact logic minimization with an example. 6
- (b) Define logic optimization principles with necessary definitions also write a short note onunate functions. 10

OR

- 4 (a) Explain sharing and Binding for resource dominated circuits in detail also write down left edge algorithm. 10
- (b) Write short note on positional cube notations. 6

UNIT - V

- 5 (a) Define floor planning. Write goals and objectives of floor planning. 8

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[Contd...

- (b) What is global routing ? Explain the methods used for global routing in detail.

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OR

5 Write short notes on :

(a) Design Rule Checking.

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(b) Channel Routing algorithm.

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(c) Interactive improvement algorithms.

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