7E 4240

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B. Tech. VII Semester (Main/Back) Examination - 2014

Computer Engg.

7CS4 Computer Aided Design For VLSI

Time : 3 Hours **Maximum Marks : 80**

Min. Passing Marks : 24

Instructions to Candidates:

*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 design stages of a microelectronic circuit in detail **(16)**

OR

1. Briefly describe complexity in microelectronic circuit design also explain semicustom design style of microelectronic circuit **(16)**

Unit-II

2. Explain Boolean functions and its derivatives also find out cofactor consensus and smoothing of equation f = ab+bc+ca with respect to 'C' **(16)**

OR

2. a) Explain Data flow and sequencing graph with the help of an example **(8)**

   b) Explain Bryant's reduction algorithm in detail **(8)**

Unit-III

3. a) What is synchronization problem? Explain **(6)**

   b) Explain scheduling in pipelined circuit in detail. **(10)**

OR

3. a) What is the need of scheduling in Architectural synthesis? Explain **(7)**

   b) Explain list scheduling with the required algorithms in detail **(9)**

Unit-IV

4. Explain Resource sharing and Binding in sequencing graphs for resource dominated circuits in detail. **(16)**

OR

4. Write short notes on the following :

   a) Functions with multi valued logic **(8)**

   b) Positional cube Notations **(8)**

Unit-V

5. a) Explain simulated Annealing in detail **(8)**

   b) Describe floor planning with its goals and objectives **(8)**

OR

5. Write short notes on

   a) Circuit extraction and Design Rule Checking **(6)**

   b) Left edge algorithm **(5)**

   c) Channel Routing algorithm **(5)**
