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**B.E. / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2012**

Electronics and Communication Engineering Branch

EIGHT SEMESTER

**EC 9045 – CAD for VLSI**

(REGULATIONS 2008)

Time: 3 Hours

Max. Marks: 100

Answer All Questions

**Part-A**

**(10 x 2 = 20 Marks)**

1. Write the concept of hierarchy and abstraction in VLSI design.
2. What are the different types of tools available for VLSI CAD? And draw the Y- chart.
3. Enumerate the various features of Tabu search algorithm.
4. Distinguish between NP-complete and NP-hard problems.
5. How is the placement algorithms grouped?
6. Give the concept of constructive placement.
7. What is meant by mixed-level and mixed-mode simulators?
8. What is meant by signal modeling?
9. Tell the steps for size reduction of an OBDD to a ROBDD.
10. List out the types of local/global routing problems in VLSI design.

**Part-B**

**(5 x 16 = 80 Marks)**

11)

- (a) List the different types of graph algorithms. Explain about Dijkstra's shortest path algorithm. (16)

12)

- (a) Discuss any three general-purpose heuristics for combinatorial optimization. Write the pseudo-code for anyone. (16)

OR

- (b) Explain in detail about Kernighan-Lin partitioning algorithm. (16)

13)

- (a) Describe in detail about Bellman-Ford algorithm. (16)

OR

- (b) What is floorplanning? Discuss the various optimization problems in floorplanning. (16)

14)

(a) Explain any three placement algorithms that can be applied in VLSI Design. (16)

OR

(b) Explain the basic version of Lee's algorithm for area routing. (16)

15)

(a) Explain in detail about Rectilinear-Steiner tree construction algorithm. (16)

OR

(b) What are the different modeling methods in simulation? Briefly discuss compiler driven and event driven simulation. (16)