CBCS SCHEME

USN | | | | | | | | | | |

15EC745

Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019
CAD for VLSI

Time: 3 hrs. Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

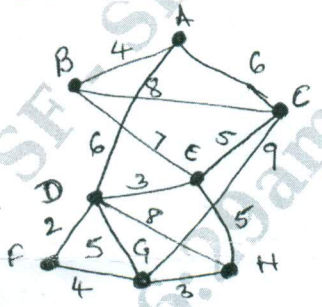
1 a. List different graph search algorithm. Discuss in detail. **(08 Marks)**

b. Write the line sweep algorithm. Explain with an example. **(08 Marks)**

OR

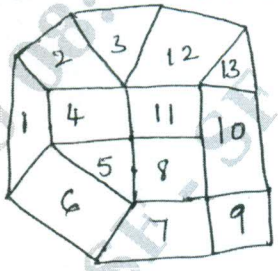
2 a. Deduce the single pair shortest path algorithm. And also find the shortest path between B to F vertices for the graph given in Fig.Q.2(a). **(10 Marks)**

Fig.Q.2(a)



b. Draw the bipartite graph, for the graph shown in Fig.Q.2(b). **(06 Marks)**

Fig.Q.2(b)



Module-2

3 a. List the atomic operations that a layout editor must support. **(08 Marks)**

b. Deduce the relationship between different graph classes. **(08 Marks)**

OR

4 a. Discuss different graph problems in physical design. **(08 Marks)**

b. List and explain various operations that can be performed on a layout using the corner stitch data structure. **(08 Marks)**

Module-3

5 a. List the parameters, they deals with partitioning problem at any level. **(10 Marks)**

b. Discuss different factors that are considered by the chip planning, floor planning, pin assignment and placement algorithms. **(06 Marks)**

OR

6 a. What do you mean by rectangular dualization? Explain briefly. **(08 Marks)**
b. Deduce the KL algorithm with an example. **(08 Marks)**

Module-4

7 a. Distinguish different design style based pin assignment problem. **(06 Marks)**
b. Deduce the genetic algorithm for placement. Explain briefly. **(10 Marks)**

OR

8 a. List and explain the objective functions and placement procedures of Breuer's algorithm. **(08 Marks)**
b. Explain different methods of general pin assignment. **(08 Marks)**

Module-5

9 a. Draw the 2 phase routing flow. **(06 Marks)**
b. Deduce the LEE-Router algorithm. **(06 Marks)**
c. Compare different Maze and line probe routing algorithm. **(04 Marks)**

OR

10 a. List different parameters, they dictated by the design rules and the routing strategy. **(06 Marks)**
b. Write the left-edge algorithm. **(06 Marks)**
c. List and deduce the possible cases of corner. **(04 Marks)**

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