CBCS SCHEME

USN | | | | | | | | | |

15EC745

Seventh Semester B.E. Degree Examination, June/July 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. Briefly discuss the three main graph search techniques with the help of neat diagram. **(10 Marks)**

b. Write an algorithm to explain Line Sweep Method. **(06 Marks)**

OR

2 a. Briefly explain the algorithm used for NP Hard problems. **(08 Marks)**

b. Writ an algorithm to explain MAXCUT. **(08 Marks)**

Module-2

3 a. Explain in brief, the atomic operations for layout editors. **(10 Marks)**

b. Briefly explain the relationship between different graph classes of physical design. **(06 Marks)**

OR

4 a. What is CIF? Discuss with examples. **(10 Marks)**

b. Mention the limitations of existing data structures. **(06 Marks)**

Module-3

5 a. Define the following cost functions:
(i) Min cut cost (ii) External cost (iii) Internal cost (iv) Differential cost. Present generic code for Kernighan – Lin (K – L) partitioning algorithm. **(10 Marks)**

b. Define Rectangular Dualization and explain the same with the help of an example. **(06 Marks)**

OR

6 a. Explain the classification of partition algorithm. **(06 Marks)**

b. Explain constraint based floor planning method. **(10 Marks)**

Module-4

7 a. Explain the general pin assignment methods. **(10 Marks)**

b. How are pin assignment techniques classified? Explain. **(06 Marks)**

OR

8 a. Discuss various objective functions and placement procedure in Breuer's Algorithm. **(10 Marks)**

b. Briefly explain design style specific pin assignment problems. **(06 Marks)**

Module-5

9 a. Discuss the graph models that are used for global routing. **(10 Marks)**

b. Briefly explain the classification of Two-layer algorithm in channel routing. **(06 Marks)**

OR

10 a. Explain the parameters to be considered in detailed routing. **(10 Marks)**

b. Write the generic code for line probe Algorithm. **(06 Marks)**

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.