CBCS SCHEME

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

16/17EVE/ELD23

Second Semester M.Tech. Degree Examination, Dec.2018/Jan.2019
Advances in VLSI Design

Time: 3 hrs. Max. Marks: 80

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

Module-1

1 a. With the help of neat diagrams, explain standard cell layout methodology. **(08 Marks)**

b. Explain semicustom design flow. **(08 Marks)**

OR

2 a. With the help of a neat diagram, explain pre-diffused arrays. **(08 Marks)**

b. Explain array based programmable logics with suitable circuits. **(08 Marks)**

Module-2

3 a. Explain briefly capacitance and reliability cross talk using suitable equivalent circuits. **(06 Marks)**

b. Explain different approaches to reduce RC delay. **(10 Marks)**

OR

4 a. With the help of a neat diagrams and suitable equations, explain reduced swing circuit. **(08 Marks)**

b. Explain current mode transmission techniques. **(08 Marks)**

Module-3

5 a. With the help of a suitable diagram, explain asynchronous interconnect. **(05 Marks)**

b. Explain synchronous timing using suitable diagrams. **(05 Marks)**

c. Explain briefly clock jitter using suitable equations and waveforms/clocks. **(06 Marks)**

OR

6 a. Explain latch based clocking using suitable diagrams. **(09 Marks)**

b. With the help of a neat circuit diagram, explain the concept of arbiters. **(07 Marks)**

Module-4

7 a. Explain how do you classify memory based on different parameters. **(07 Marks)**

b. Explain three transistor dynamic memory cell. **(09 Marks)**

OR

8 a. With the help of a neat circuit diagram, explain basic differential sense amplifier circuit. **(07 Marks)**

b. Explain voltage down converters using suitable circuit diagrams. **(09 Marks)**

Module-5

9 a. Explain noise sources in IT-DRAM. **(08 Marks)**

b. Write short notes on memory yield. **(08 Marks)**

OR

10 a. With the help of a neat block diagram, explain sources of power dissipation in memories. **(10 Marks)**

b. Explain pseudo NMOS Programmable Logic Array (PLA). **(06 Marks)**

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