

Exam.Code:0929
Sub. Code: 6909

: 6888

1129

B.E. (Electronics and Communication Engineering)
Fifth Semester
EC-501: VLSI Design

ilities

Time allowed: 3 Hours

Max. Marks: 50

4, 1/8,
5,5)

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

be the
5,5)

- I. Attempt the following:-
 - a) What are advantages of ICs over discrete components?
 - b) Define constant voltage scaling.
 - c) Why NMOS technology is preferred more than RMOS technology?
 - d) What is power dissipation?
 - e) How dielectric isolation occurs? (5x2)

UNIT - I

- II. Discuss the CMOS lambda design rules. Draw and explain stick diagram of NAND and NOR Gate. (10)
- III. Compare nMOS and CMOS inverters. Explain all the power dissipation in MOS Inverter. (10)
- IV. Explain Epitaxial devices and their characteristics. (10)

UNIT - II

- V. Explain the concept of body Bias in MOSFETS. Discuss the challenges of MOSFET Scaling in detail. (10)
- VI. Discuss the MOS Inverter Switching Characteristics in terms of Delay time. (10)
- VII.
 - a) Discuss and explain short channel effects.
 - b) Discuss and explain Domino Logic with help of suitable example. (2x5)

x-x-x