M.Sc. 3rd Semester Examination, 2018

ELECTRONICS

(VLSI Lab.)

(Practical)

PAPER —ELC-305

Full Marks : 50

Time : 3 hours

Answer any **one** question selecting it by a lucky draw

The questions are of equal value

1. Obtain the transient response of CMOS inverter using SPICE and show the result.

2. Using spice software simulate a CMOS inverter. Obtain the transfer characteristics for increasing values of β_n/β_p.

3. Implement $y = \overline{AB + C}$ using SPICE and check the result.

4. Using SPICE simulate half adder circuit and verify result.

5. Using SPICE simulate NOR gate and verify result.

6. Implement $Y = \overline{A(B + C)}$ using SPICE and check the result.

7. Using SPICE simulate CMOS AND gate and verify result.

8. Using SPICE simulate MOS inverter with different loads (Use Resister 1K, 100 K, 1000 K as loads) verify result.

9. Using SPICE simulate CMOS OR gate and verify result.

10. Using spice software simulate CMOS NAND gate and verify result

Distribution of marks

Program	: 10 Marks
Execution	: 10 marks
Result	: 15 Marks
Viva voce	: 10 Marks
Laboratory Note Book	: 05 Marks
	Total = 50 Marks