

2016

**MCA 1st Semester Examination
BASIC ELECTRONICS & DIGITAL LAB.**

PAPER—MCA-107

(Practical)

Full Marks : 100

Time : 3 Hours

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer any one question.

- 1. Design NOT, OR, AND, XOR, XNOR gates using minimum number of NOR gates.**
- 2. Design NOT, OR, AND, XOR, XNOR gates using minimum number of NAND gates.**
- 3. Design a circuit to convert BCD to Excess 3.**
- 4. Construct a circuit to convert Binary to Gray code.**
- 5. Construct a circuit to convert Gray code to Binary number.**

(Turn Over)

6. Design Full Adder & Full subtractor using 8 : 1 MUX.
7. Design full adder & full subtractor using 4 : 1 MUX.
8. Design 4 bit even parity generator & checker circuit.
9. Design 4 bit odd parity generator & checker circuit.
10. Construct clocked SR & JK flip-flop using NAND gates & verify its operation.
11. Design a four bit adder & 2's complement subtractor using 7483 & XOR gates.
12. Design 4 bit ripple counter.
13. Design full adder & subtractor using basic gates.

PNB : 10

Viva : 20
