Register Number :

Name of the Candidate :

6 9 1 3

M.C.A. DEGREE EXAMINATION, 2009

(FIRST SEMESTER)

(PAPER - III)

131. DIGITAL LOGIC AND COMPUTER ORGANIZATION

(New Regulations)

December]   [Time : 3 Hours

Maximum : 100 Marks

PART - A $(8 \times 5 = 40)$

Answer any EIGHT questions.
All questions carry equal marks.

1. Convert the following binary numbers to equivalent decimal numbers :

   (a)   100100.

   (b)   10011.

Turn Over

2. Briefly explain basic gates.

3. Write short notes on the basic structure of a computer.

4. What do you mean by static memory ? Explain.

5. State and explain the operations of main memory.

6. Write short notes on subroutines.

7. Explain how a processor can execute a complete instruction.

8. Briefly explain hardwired control.

9. Discuss the major functions of I / O module.

10. Write short notes on program controlled I / O.

PART - B   (3 ×20 = 60)

Answer any THREE questions.
All questions carry equal marks.

11. Convert the following to product of sums form:

(a) A B + $\overline{A}$ (B + $\overline{C}$) (D + $\overline{B}$).

(b) (B + C) [($\overline{B}$ + $\overline{C}$) (A+ $\overline{C}$) (B + C)] .

12. Explain the functions of functional units of a computer with a neat figure.

13. Describe in detail the most common addressing techniques.

14. Explain the functions of a microprogrammed control unit with a neat figure.

15. Write notes on :

(a) Interrupts.

(b) Direct Memory Access.