

MCA-641**MCA-01/
PGDCA-01**

**M.C.A./P.G.D.C.A. DEGREE/DIPLOMA
EXAMINATION – JUNE 2008**

First Year/First Semester

COMPUTER FUNDAMENTALS

Time : 3 hours

Maximum marks : 75

Answer for 5 marks questions should not exceed
2 pages.

Answer for 10/15 marks questions should not exceed
5 pages.

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions.

1. Convert $(525)_{10}$ into its equivalent Binary, Octal and Hexadecimal.
2. Write down all the laws of Boolean Algebra.
3. Explain the working principles of J-K flip-flop with its circuit.

4. Distinguish among various types of random access memories.
5. Discuss the basic organization of ALU.
6. Discuss the various addressing modes of 8086 microprocessor.
7. Write short notes on Parallel Processing.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Discuss the Karnaugh map method for simplifying Boolean functions.
9. Explain the working principles of a Half Adder and a Half Subtractor.
10. Explain the general structure of I/O Module in detail.
11. Explain various instruction formats in detail.
12. With a neat diagram explain the micro programmed control unit.
13. With a neat diagram discuss the architecture of 68000 Microprocessor.
14. Compare any three common RISC architectures.