

**MCA-946**

**MCA-01/  
PGDCA-01**

**M.C.A. DEGREE/P.G.D.C.A. EXAMINATION –  
JANUARY, 2015.**

**First Year**

**COMPUTER FUNDAMENTALS**

**Time : 3 hours**

**Maximum marks : 75**

**PART A — ( $5 \times 5 = 25$  marks)**

**Answer any FIVE questions.**

1. Convert the following:
  - (a)  $(237)_8 = (?)_{10}$
  - (b)  $(3A)_{16} = (?)_2$
2. Discuss about D-Flip-Flop.
3. Discuss about RAM with block diagram.
4. Explain the functions of control unit.
5. Describe the Arithmetic micro operations.
6. Explain in detail about addressing modes.
7. Write the characteristics of RISC.

PART B — ( $5 \times 10 = 50$  marks)

Answer any FIVE questions.

8. Explain the different types of logic gates with truth tables.
  9. Draw the truth table and circuit diagram of full subtractor and explain it.
  10. Explain the basic structure of CPU.
  11. Describe in detail micro instruction format.
  12. With a neat diagram discuss the architecture of microprocessor.
  13. Explain pipeline processing with an example.
  14. Explain SIMD array processor organization with diagram.
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