LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.C.A. DEGREE EXAMINATION – **COMPUTER APPLICATIONS**

FIRST SEMESTER – NOVEMBER 2016

CA 1807 - COMPUTER ORGANIZATION & ARCHITECTURE

Date: 08-11-2016   Dept. No.   Max. : 100 Marks
Time: 01:00-04:00

PART-A

Answer ALL the questions   10*2=20

1) Write the truth table for XOR gate.
2) What are combinational circuits?
3) Mention the methods of simplifying Boolean expression.
4) Write a note on T flip flop.
5) What are the four types of micro-operations?
6) What are the basic types of computer instructions?
7) Why is an interface required between CPU and peripherals?
8) Bring out the difference between isolated and memory mapped I/O.
9) List out the replacement algorithms employed in cache memory.
10) Mention the basic components of a memory management unit.

PART-B

Answer ALL the questions   5*8=40

11) a) Describe adders with neat diagram.
                    (or)
    b) Explain decoder and encoder with diagram.
12) a) Give a detailed description on control unit
                    (or)
    b) Explain 4 bit binary adder/subtractor with a neat diagram

13) a) Explain general register organization
                    (or)
    b) Describe arithmetic and shift microoperations.
14) a) Explain DMA.
                    (or)
    b) Explain Daisy Chaining.

15) a) Elucidate the mapping procedures in cache memory.
                    (or)
    b) Explain crossbar switch and multistage switching network with diagrams.

PART-C

Answer ALL Questions   2*20=40

16) Answer the following:

    a) Subtractors   b) Any two flip flops   **(10+10)**

17) Explain the following with required figures:

    a) Shift registers   b)Addressing modes   **(5+15)**

18) Give a detail explanation on

    a) Strobe and handshake   b)RAM chip   **(15+5)**

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