LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIRST SEMESTER – NOVEMBER 2017

CA 1807 - COMPUTER ORGANIZATION & ARCHITECTURE

Date: 07-11-2017   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 OR gate.

2) What are combinational circuits?

3) Mention the methods of simplifying Boolean expression.

4) Write a note on flip flops.

5) Write a note on register.

6) What is a program counter?

7) Why is an interface required between CPU and peripherals?

8) What is DMA?

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 subtractors with neat diagram.
                        (or)
    b) Explain encoder with diagram.

12) a) Give a detailed description on shift registers.
                        (or)
    b) Obtain the Truth Table and Logic Diagram for the following function:
       F = (ACD)+(ACD')+(AC'D)+(AB')

13) a) Explain general register organization.
                        (or)
    b) Describe shift microoperations.

14) a) Explain arithmetic pipeline.
                        (or)
    b) Explain Daisy Chaining.

15) a) Elucidate RAM chip.
                        (or)
    b) Explain crossbar switch and multistage switching network with diagrams.

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Answer ANY TWO Questions.   **2*20=40**

16) Answer the following:

   a) Adders with neat diagram. (10)

   b) Any two flip flops with a neat diagram. (10)

17) Explain the following with required figures:

   a) Control unit. (10)

   b) Any five addressing modes. (10)

18) Give a detail explanation on:

   a) Handshake in asynchronous data transfer. (10)

   b) Virtual Memory. (10)

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