



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

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

**FIRST SEMESTER – NOVEMBER 2018**

**CA 1807 – COMPUTER ORGANIZATION & ARCHITECTURE**

Date: 30-10-2018  
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

**PART-A**

**Answer ALL the questions**

**10\*2=20**

- 1) Define Computer Architecture.
- 2) Write the truth table for OR gate.
- 3) Mention the methods of simplifying Boolean expression.
- 4) Write a note on T flip flop.
- 5) What is an arithmetic microoperation?
- 6) Name the types of addressing modes.
- 7) What is a multiprocessor?
- 8) Mention the ways in which asynchronous data transfer is achieved.
- 9) What is virtual 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) Explain shift register with neat diagram  
(or)  
b) Describe any four addressing modes.
- 13) a) Explain general register organization.  
(or)  
b) Elucidate instruction code formats with figures.
- 14) a) Explain Direct Memory Access.  
(or)  
b) Give explanation on Daisy Chaining.
- 15) a) Elucidate the mapping procedures in virtual memory.  
(or)  
b) Explain crossbar switch and multistage switching network with diagrams.

**PART-C**

**Answer any TWO questions.**

**2\*20=40**

16) Answer the following:

- a) Adders with neat diagram (10)
- b) Explain any two flip flops with a neat diagram (10)

17) Explain the following with required figures:

- a) Bidirectional shift register (10)
- b) Arithmetic Pipeline (10)

18) Give a detailed explanation on:

- a) Strobe and handshake (10)
- b) Cache memory (10)

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