

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



**B.Sc. DEGREE EXAMINATION – COMPUTER SCIENCE**

**FIRST SEMESTER – NOVEMBER 2022**

**17/18UCS1MC02 – COMPUTER ORGANIZATION AND ARCHITECTURE**

Date: 03-12-2022

Dept. No.

Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

**PART – A**

**(10 x 2 = 20 Marks)**

**Q. No**

**Answer ALL the Questions**

- 1 List out any four logic gates.
- 2 Define full-adder.
- 3 What is Decoder?
- 4 Define registers.
- 5 State instruction code.
- 6 What is effective address?
- 7 List out any two symbols of memory-reference instructions.
- 8 What is meant by register-reference instructions?
- 9 Write the three fields of instruction formats.
- 10 Define Program counter.

**PART – B**

**(5 x 8 = 40 Marks)**

**Answer ALL the Questions**

- 11 (a) Describe Map simplification with examples.  
(Or)  
(b) Define Boolean algebra. Express a truth table and logic diagram for the given algebraic form  
 $F = x + y'z$
- 12 (a) Illustrate the concept of Encoder with its truth table.  
(Or)  
(b) Elaborate the concept of Multiplexers with its suitable diagram.
- 13 (a) Depict the Stored program organization with its suitable diagram.  
(Or)  
(b) Explain the different types of computer registers.
- 14 (a) Draw the flowchart for interrupt cycle.  
(Or)  
(b) Describe the register-reference instructions.

