# LOYOLA COLLEGE (AUTONOMOUS), CHENNAI - 600034 

## B.Sc. DEGREE EXAMINATION - COMPUTER SCIENCE

 FIRST SEMESTER - NOVEMBER 2022
## 17/18UCS1MCO2 - COMPUTER ORGANIZATION AND ARCHITECTURE

Date: 03-12-2022
Time: 01:00 PM - 04:00 PM

Dept. No. $\square$

PART - A

## Answer ALL the Questions

Q. No

1
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.

15 (a) Explain the data transfer instructions.
(Or)
(b) Write a note on status bit conditions with its diagram.
PART - C

## Answer any TWO Questions

16 (a) Explain the different types of flip-flops with suitable diagrams.
(b) What is shift registers? Describe the bidirectional shift register with parallel load.

17 (a) Elaborate the concept of Common bus system with the diagram.
(b) Determine the Instruction cycle with the flowchart.

18 (a) Illustrate the different types of Addressing modes.
(b) Explain the data manipulation instructions.
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