LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIRST SEMESTER – **NOVEMBER 2022**

UCS 1502 – 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	Define SR flip flop.
2	Define Half-adder.
3	What is Encoder?
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	Differentiate direct and indirect addressing mode.

	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= AB + A'C
12	(a) Illustrate the concept of Decoder 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 memory-reference instructions.
15	(a) Explain the general register organization. **(Or)** (b) Write a note on status bit conditions with its diagram.

		PART – C	**(2 x 20 = 40 Marks)**
		Answer any TWO Questions	
16	(a)	Explain the different types of Logic gates with suitable diagrams.	**(10)**
	(b)	Explain the concept of memory unit.	**(10)**
17	(a)	Elaborate the concept of Common bus system with the diagram.	**(10)**
	(b)	Determine the Instruction cycle with the flowchart.	**(10)**
18	(a)	Illustrate the different types of Addressing modes.	**(10)**
	(b)	Explain the data manipulation instructions.	**(10)**

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