LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIRST SEMESTER – **APRIL 2019**

16/17/18UCS1MC02– COMPUTER ORGANIZATION AND ARCHITECTURE

Date: 05-04-2019   Dept. No.   Max. : 100 Marks
Time: 01:00-04:00

Section – A

Answer **ALL** the Questions   **(10 * 2 = 20 Marks)**

1) Draw the symbol & truth table for NOR gate.

2) What is called Excitation Table?

3) What do you mean by Encoder?

4) What is called Registers?

5) What is effective address?

6) What is called Program Counter?

7) What is the use of INC instruction?

8) Write the microperations to add the element to the accumulator.

9) List any four Zero address instruction.

10) What is called control word?

Section – B

Answer any **FIVE** questions   **(5 * 8 = 40 Marks)**

11   Explain the block diagram of Digital Computer.

(OR)

Simplify the Boolean expression by using Karnaugh map F(A,B,C) =   (0,2,4,5,6)

12   What is Decoder? Explain how the 3X8 decoder is implemented.

(OR)

Explain in detail about the working of Multiplexer.

13) Explain about the various types of computer Instruction Formats.
(OR)
Explain the various types of registers used in Basic computer.

14). Explain in detail about the different phases involved in Instruction cycle with a neat flowchart.
(OR)
With a neat flowchart, explain about the Interrupt cycle.

15) Discuss the different fields involved in Instruction Formats.

(OR)

Explain in detail about the different types of address instructions with an example.

Section - C

Answer any **TWO** questions   **(2 * 20 = 40 Marks)**

16) i) Explain in detail about the Full adder circuit with a neat diagram.   **(10 Marks)**

   ii) What is Flipflop? Explain the working of D Flip flop.   **(10 Marks)**

17) i) What is Shift Register? Explain about how the register will capable of shifting its data in both

directions.   **(10 Marks)**

   ii) Discuss the different types of instruction present in Instruction Formats.   **(10 Marks)**

18) Explain in detail about the Addressing modes with an example

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