LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FOURTH SEMESTER – **APRIL 2016**

CS 4500 - MICROPROCESSORS & COMPUTER ARCHITECHTURE

Date: 22-04-2016 Dept. No. Max. : 100 Marks
Time: 09:00-12:00

Part – A

Answer ALL questions. **10 x 2 = 20**

1. What is Microprocessing Unit?
2. List all the flags related with arithmetic and logic unit.
3. What is an assembler?
4. Write the different types of data transfer?
5. Specify the number of times the following loops are executed.

```
LXI B, 0007H
LOOP:  DCX B
MOV A, B
ORA C
JNZ LOOP
```

6. Write the instructions to rotate the accumulator bits in 8085?
7. Define the term executive address.
8. Draw the basic symbols of Register Transfer Language.
9. Differentiate between instruction code and operation code.
10. What are Program Interrupts?

Part – B

Answer ALL questions. **5 x 8 = 40**

11. a) Explain 8085 microprocessor architecture with a neat diagram.

(Or)

b) Write about the memory classifications.

12. a) Explain in brief about the different addressing modes of 8085 instructions.

(Or)

b) Explain Branch Instructions of 8085 instruction set.

13. a) Write an assembly program to perform Binary to ASCII Hexa conversion.

(Or)

b) Write an assembly language program to multiply two numbers.

14. a) Explain in brief about 4 bit binary incrementer circuit with diagrams

(Or)

b) Explain the circuit of 4-bit Subtractor with a need digram.

15. a) write about the Direct and Indirect addressing with an example.

(Or)

b) With neat diagrams, explain one stage of adder and logic circuit.

Part – C

Answer ANY TWO questions. **2 x 20 = 40**

16. a) Explain in detail about the process of communication between the microprocessor and memory with the timing diagram. **(10)**

b) Write any 10 basic arithmetic and logical instructions in the instruction set of 8085. **(10)**

17. a) Explain various interfacing devices in a microcomputer with neat diagrams. **(10)**

b) Write an assembly language program to find the sum of a set of 20 numbers. **(10)**

18. a) Dicuss the implementation of common bus for all the basic registers in a microcomputer. **(10)**

b) Explain Memory Reference Instructions with suitable symbolic descriptions. **(10)**

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