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Roll No. _____

18/2088

B.C.A. Third Semester Examination, 2018

Third Paper

(Computer Architecture & Assembly Language)

Time : Three Hours ***Maximum Marks : 75***

Note : Attempt any **five** questions. **All** questions carry equal marks.

Note : The answers to short questions should not exceed 200 words and the answers to long questions should not exceed 500 words.

1. (a) Explain the following terms with examples: 9+6

Instruction Format, Operation code, Operand, Register, Bus, I/O ports.

(b) Describe Instruction cycle for a digital computer.

2. (a) What is the difference between asynchronous and synchronous data transfer schemes? Explain each with the help of a neat block diagram. 8+7

(b) Describe Interrupt driven data Transfer. What do you understand by "polling"? What is a priority Interrupt?

3. Write a brief account of the evolution of microprocessors, with their application areas.

 15

4. Draw the general programming model of the 8085 Microprocessor and explain its operational features together with the function of each unit. 15

5. What do you understand by Addressing mode? Explain the different types of addressing modes with examples. 15

6. Explain with examples: 5+5+5

   (a) Data transfer Instructions of the 8085 Microprocessor.

   (b) DMA Controller.

   (c) Memory Mapped I/O scheme.

7. With reference to floating point representation, discuss the following: 15

   (a) Range and Precision

   (b) Normalization

   (c) Floating point Arithmetic

8. Write short notes on: 7½×2=15

   (a) Macros in Assembly language.

   (b) Booth's Algorithm.

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9. Write a program in Assembly language to compute the sum of a list of N integer numbers stored in the RAM of the computer system. 15