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(Printed Pages 4)

Roll No. _____

19/188

B.C.A. (Third Semester)

Examination, 2019

Third Paper

**(Computer Architecture & Assembly
Language)**

Time : Three Hours

Maximum Marks : 75

Note: Attempt any **five** questions. **All** questions carry equal marks. The answers to short questions should not exceed 200 words and the answers to long questions should not exceed 500 words.

P.T.O.

1. (a) Explain the concept of computer organization? Explain CPU registers and their properties. 8
- (b) Explain Address bus, Data bus and Control bus used in a microprocessor. 7
2. (a) Explain the following terms & correlate them :
Instruction cycle, Machine cycle and Control signals. 7
- (b) What is memory? Explain memory interfacing with suitable examples. 8
3. (a) Draw and explain the architecture of the 8085 microprocessor. 8
- (b) Explain Booth's algorithm with a suitable example. 7
4. (a) Write an assembly language program with algorithm of Addition of two 8 bit hexadecimal numbers. 7
- (b) What do you know about peripheral devices? Explain DMA controller with a block diagram. 8

5. (a) Explain interrupt and their priority levels. 7
- (b) Explain the terms
Macros 8
Subroutine
Cache memory
Assembler
6. (a) Differentiate between Synchronous and Asynchronous data scheme. 7
- (b) What is pipelining? Explain RISC & CISC pipeline vector processing. 8
7. (a) Write an Assembly language program to find out number of 1's & Zero's in a given 8-bit hexadecimal number. 8
- (b) Explain divisor Algorithm with a suitable example. 7
8. (a) Explain ALU & flag register in detail. 7
- (b) Explain the Addressing modes of 8085 microprocessor with example. 8

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9. Write short notes on **any three** of following. $5 \times 3 = 15$

- (i) Input output mapped I/O Scheme.
- (ii) Floating point Notation
- (iii) Stacks & Subroutine
- (iv) Serial Communication