

C

(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.

19/188

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

2

19/188

5. (a) Explain interrupt and their priority levels. 7
(b) Explain the terms
Macros
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

3

P.T.O.

19/188

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