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(Printed Pages 4)

Roll No. _____

20/1088

B.C.A. (Third Semester) Examination, 2020

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 answer type questions should not exceed 200 words and the answers to long answer type questions should not exceed 500 words.

1. (a) Explain about basic organization of processor & their design features. 7

   (b) Explain the terms : 8

   (i) Special Purpose Registor.

   (ii) Timing & control cycle.

P.T.O.

(iii) Address Bus & Data Bus

(iv) Cache Memory

2. (a) What is stack? How is data stored in stack locations? Explain in detail. 7.5

   (b) Explain RISC & CISC processor in details. 7.5

3. (a) Write four Arithmatic & Data transfer instruction with their number of bytes, Machine cycle, T-state & Flag status. 8

   (b) Explain addressing modes used in 8085 microprocessor with example. 7

4. (a) Write an assembly language program to transfer a block of data from 2000H—2009H to 3000H—3009H memory location. 8

   (b) What is interrupt? Explain Hardware & Software interrupt & their priority. 7

5. (a) Explain the flags used in 8085 microprocessor. 7

(b) Draw & explain input output interfaces of 8085 microprocessor. 8

6. (a) Explain the DMA and its mechanism with neat block diagram. 7.5

(b) Write and explain multiplication and divisor Algorithms. 7.5

7. (a) Differentiate between synchronous & Asynchronous data schemes. 7.5

(b) What is subroutine? Write a delay subroutine program for delay of 1 sec.

 7.5

8. (a) What is memory? Explain memory interfacing used in microprocessor with suitable example. 8

(b) Write an assembly language program to find out the smallest number in a data series given at 0000H to 0009H memory location. 7

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9. Write short notes **on any three** of following 5+5+5

(a) Memory mapped I/O scheme

(b) ALU

(c) Booths Algorithms

(d) Floating point representation