21U412 (Pages: 2) Name: .....

Reg.No: .....

FOURTH SEMESTER B.Sc./B.C.A. DEGREE EXAMINATION, APRIL 2023

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U BCS4 A14 / CC19U BCA4 A14 - MICROPROCESSORS ARCHITECTURE AND PROGRAMMING

(Computer Science / Computer Application - Common Course)

(2019 Admission onwards)

Time : 2.5 Hours Maximum : 80 Marks

Credit : 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 2 marks.

1. What is 8 bit micro processor? Give three examples.
2. List and explain different buses in micro processor.
3. What is a flag register? What are its functions?
4. Give six exapmles of 8085 one byte instruction.
5. Give any four instructions that use register indirect addressing in 8085.
6. Explain XCHG instruction of 8085. Illustrate with example.
7. Explain the CMA instruction of 8085. Illustrate with examples.
8. How many states are there in memory read cycle? Explain.
9. Explain how can you set up conditional loop using the 8085 microprocessor instructions. Illustrate with example.
10. What is meant by a subroutine return? Explain the steps involved during the execution of the subroutine return instruction with suitable example.
11. List the software interrupts of 8085.
12. Explain Mode 3 of 8254 counter.
13. What are the two internal functional units of 8086 microprocessor?
14. What is the function of the M/IO signal in 8086?
15. What is the function of the 8086 AX register?

(Ceiling: 25 Marks)

Part B (Paragraph questions)

Answer ***all*** questions. Each question carries 5 marks.

16. What is the difference between microprocessor and micro computer?
17. Explain the architecture of microprocessor.
18. Explain various categories of instructions in 8085 microprocessor.
19. Describe the opcode fetch machine cycle with a neat timing diagram.
20. Write an assembly program to find the l's complement of the number stored at memory location 4400H and store the complemented number at memory location 4300H.
21. Explain the process of DMA.
22. Explain different functional components of 8086 execution unit.
23. Describe 20 bit physical address calculation mechanism in 8086.

(Ceiling: 35 Marks)

Part C (Essay questions)

Answer any ***two*** questions. Each question carries 10 marks.

24. Explain pin diagram of 8085 with neat diagram.
25. Describe the arithmetic instructions of 8085 microprocessor with suitable examples.
26. Explain the subroutine call and return instructions of microprocessor with suitable examples.
27. Describe the addressing mode of 8086.

(2 × 10 = 20 Marks)

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