V Semester B.C.A. Degree Examination, Nov./Dec. 2018
(CBCS) (F + R) (2016-17 and Onwards)
COMPUTER SCIENCE
BCA – 505 : Microprocessor and Assembly Language

Time : 3 Hours
Max. Marks : 70

Instruction : Answer all Sections.

SECTION – A

Answer any 10 questions : (10x2=20)

1. What is a microprocessor ?

2. Explain briefly about the different types of buses in 8085.

3. Name the flags of 8085.

4. Mention any two instructions which clear the contents of accumulator.

5. Explain any two data transfer instructions of 8085.


7. Write an assembly language program to find the 2's complement of an 8-bit number.

8. Define the terms machine cycle and instruction cycle.

9. Define counters and time delays.

10. Define interrupt.

11. Write an assembly language program to add two bytes.

12. What is memory interfacing ?

P.T.O.
SECTION - B

Answer any five questions: \(5\times10=50\)

13. Explain the functional block diagram of 8085 microprocessor with a neat diagram.

14. a) What is addressing mode? Explain briefly the various addressing modes of 8085 microprocessor.
   b) Explain the classification of 8085 microprocessor instructions based on word size. Give example. \(5+5\)

15. a) Write an assembly language program to substract two 16 bit numbers.
   b) Explain the instructions DAA and DAD \(r_p\). \(8+2\)

16. a) With an example, explain the logical instructions of 8085 microprocessor.
   b) Calculate the time delay using a register with clock frequency of 2 MHz.

   MVI C, FF
   LOOP DCR C
   JNZ LOOP. \(5+5\)

17. a) Explain the different operations that can be performed on stack.
   b) Explain conditional CALL and RET instruction of 8085 microprocessor. \(5+5\)

18. a) Differentiate memory mapped I/O and peripheral mapped I/O.
   b) Write an assembly program to convert BCD to binary. \(5+5\)

19. a) Briefly explain the 8085 vectored interrupts.
   b) Write a note on RIM and SIM 8085 instructions. \(5+5\)

20. Write short notes on:
   a) DMA
   b) Demultiplexing of address bus in 8085. \(5+5\)
V Semester B.C.A. Degree Examination, Nov./Dec. 2017  
(CBCS) (F+R) (2016-17 and Onwards)  
BCA – 505 : MICROPROCESSOR AND ASSEMBLY LANGUAGE

Time : 3 Hours  
Max. Marks : 70

Instruction: Answer all the Sections.

SECTION – A

Answer any ten questions. (10×2=20)

1. What is Microprocessor ? Give the word length of 8085 Microprocessor.

2. Explain Program Counter and Stack Pointer.

3. Write any two examples for 3 byte Instructions.

4. Explain Instruction DAD D.

5. What is a Subroutine ?

6. Define counting and looping.

7. Define Maskable and Non-maskable interrupts of 8085.

8. Explain SID and SOD Pins of 8085.

9. Compare POP and PUSH Instruction.

10. What are handshake signals ?

11. What is I/O Interfacing ?

12. Find the number of bytes required to store the following instructions:

   1) LXID, 8500

   2) CPI FFH.

P.T.O.
SECTION – B

Answer any five questions. (5×10=50)

13. Draw the architecture of 8085 microprocessor and briefly explain. 10

14. a) What are flags? Draw the format of flag register and explain their function. 5
    b) Write a program to load 07F in the register B and find its 2's complement. 5

15. a) Write an assembly language program to multiply two digit BCD. 5
    b) Write a program to add two-16-bit nos. 5

16. a) What is a stack? Explain PUSH and POP operation. 6
    b) Explain unconditional Jump Instructions. 4

17. a) Explain the following instructions of 8085:
    i) STAXD
    ii) CMPM
    iii) XCHG.
    b) Explain nesting of subroutine with an example. 4

18. a) Explain CALL and RETURN operations in 8085. 5
    b) Explain RIM and SIM Instructions. 5

19. What is Interrupt? Explain various interrupts of 8085. 10

20. Write short notes on:
    a) Addressing modes of 8085 5
    b) Data transfer instructions in 8085. 5
(CBCS) (Fresh)  
COMPUTER SCIENCE  
BCA – 505 : Microprocessor and Assembly Language  
(2016-17 and Onwards)  

Time: 3 Hours  
Max. Marks: 70  

**Instruction:** Answer all Sections.

**SECTION – A**

1. Answer any ten questions: (10×2=20)
   1) What is the function of instruction register and decoder?
   2) Draw the flag register mentioning the flag status.
   3) What is immediate addressing? Mention an example.
   4) Write any two instructions to clear the contents of accumulator register.
   5) Find the contents of accumulator after executing the following block of program segment. Content of B register is 3EH. Initially:  
      MOV A, B  
      RLC  
      RLC  
      HLT.
   6) Explain DAA instruction.
   7) Draw the flowchart to generate delay loop using register.
   8) Differentiate between absolute and partial decoding.
   9) Two consecutive memory locations store 3EH and 2FH data respectively. Find the content of accumulator after executing following segment of program.  
      LX1 H 2050H  
      MOV A, M  
      INXH  
      SUBM  
      INXH  
      MOV M, A
   10) What is I/O interfacing?
   11) Draw the bit pattern of control word for 8255.
   12) Explain the priority modes of 8259.
SECTION B

II. Answer any five questions: (5×10=50)

13) a) Draw the pin configuration of 8085 processor.

b) With diagram explain how control signals are generated?

14) a) Write an ALP to add two-N byte numbers.

b) Classify the instructions based on sizes and explain each with an example.

15) a) Explain i) STAX D ii) ADC R iii) XCHG instructions.

b) Explain unconditional jump instruction.

16) a) Write an ALP for block transfer of data bytes.

b) Calculate the count to obtain 100μs loop delay. Let the clock frequency be 2MHz.

MVI B, Count

loop: NOP 4T

NOP 4T

DCR B 4T

JNZ loop 10/7T

17) a) Explain nesting of subroutines with an example.

b) Explain memory read machine cycle with timing diagram.

18) Compare memory mapped I/o and I/o mapped I/o.

19) a) What is an interrupt? Explain the classification of interrupts.

b) Explain RIM instruction with bit pattern.

20) a) Explain the functional block diagram of 8255 PPI.

b) Write a note on interfacing devices.