



NS – 615

V Semester B.C.A. Degree Examination, Nov./Dec. 2016
(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

I. 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.

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SECTION – B

II. Answer **any five** questions :

(5×10=50)

- 13) a) Draw the pin configuration of 8085 processor. 5
 b) With diagram explain how control signals are generated? 5
- 14) a) Write an ALP to add two-N byte numbers. 5
 b) Classify the instructions based on sizes and explain each with an example. 5
- 15) a) Explain i) STAX D ii) ADC R iii) XCHG instructions. 6
 b) Explain unconditional jump instruction. 4
- 16) a) Write an ALP for block transfer of data bytes. 5
 b) Calculate the count to obtain 100 μs loop delay. Let the clock frequency be 2MHz.
- MVI B, Count
- | | | |
|------------|-------|---|
| loop : NOP | 4T | |
| NOP | 4T | |
| DCR B | 4T | |
| JNZ loop | 10/7T | 5 |
- 17) a) Explain nesting of subroutines with an example. 5
 b) Explain memory read machine cycle with timing diagram. 5
- 18) Compare memory mapped I/o and I/o mapped I/o. 10
- 19) a) What is an interrupt? Explain the classification of interrupts. 6
 b) Explain RIM instruction with bit pattern. 4
- 20) a) Explain the functional block diagram of 8255 PPI. 5
 b) Write a note on interfacing devices. 5