



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.

P.T.O.



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 μ s 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