

Professional Course Examination, November 2018

(5th Semester)

BACHELOR OF COMPUTER APPLICATIONS

Course : BCA-503

(Microprocessors)

(Revised)

Full Marks : 75

Time : 3 hours

(PART : A—OBJECTIVE)

(Marks : 25)

The figures in the margin indicate full marks for the questions

SECTION—A

(Marks : 15)

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. The first microprocessor developed was

- (a) Intel 2002 ()
- (b) Intel 4004 ()
- (c) AVR one ()
- (d) Motorola 6800 ()

- 2.** Data bus of 8085 microprocessor is
- (a) 4-bit () (b) 8-bit ()
(c) 16-bit () (d) 32-bit ()
- 3.** Which pin of microcontroller is used to multiplex address and data lines?
- (a) SOD () (b) HLDA ()
(c) ALE () (d) SID ()
- 4.** In each instruction cycle, the first operation is always
- (a) memory read () (b) memory write ()
(c) opcode fetch () (d) opcode read ()
- 5.** Which is the INTA pin of 8085 microprocessor?
- (a) 9 () (b) 10 ()
(c) 11 () (d) 12 ()
- 6.** What is address of non-maskable interrupt?
- (a) 0020_H () (b) 0024_H ()
(c) 0028_H () (d) 002C_H ()
- 7.** Which of the following is software interrupt?
- (a) RST 4-5 () (b) RST 5 ()
(c) RST 7-5 () (d) RST 8 ()
- 8.** What is the resolution of 8-bit ADC?
- (a) 39 mV () (b) 40 mV ()
(c) 41 mV () (d) 42 mV ()
- 9.** Which is the fastest ADC?
- (a) Flash ADC ()
(b) Dual slope ADC ()
(c) SAR ADC ()
(d) Sigma delta ADC ()
- 10.** Which of the following is control instruction?
- (a) MVI () (b) INX ()
(c) CMP () (d) ANI ()

Indicate whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark in the brackets provided : 1×5=5

1. TRAP is non-vectored interrupt. (T / F)
2. RIM stands for Read Interrupt Mask. (T / F)
3. As the 8085 microprocessor is 8-bit, 16-bit addition is not possible. (T / F)
4. CNC is a branching instruction. (T / F)
5. 8085 has 20-bit address lines. (T / F)

SECTION—B

(Marks : 10)

Answer the following questions : 2×5=10

1. Write two logical instructions and two control instructions.
2. Name any two internal registers of 8085.
3. Write two features of address bus of 8085.
4. What are the three types of instruction format in 8085?
5. Name the level triggering interrupts in 8085.

(PART : B—DESCRIPTIVE)

(Marks : 50)

The figures in the margin indicate full marks for the questions

1. (a) Explain the architecture of 8085 programming model. 7
(b) What are the basic units of a microprocessor? 3
- OR**
- (c) Explain the different types of flag registers in 8085. 5
(d) Explain the bus structure of 8085 microprocessor. 5
2. Explain the different types of addressing modes in 8085 and give any two examples each. 10
- OR**
- (a) Write an ALP to exchange the content of memory location in 1200 H and 4000 H. 5
(b) Define stack. Explain the operation of stack in detail. 5
3. (a) What is decoder? Explain with a block diagram the working of 3 to 8 lines decoder. 6
(b) Explain the function of latch in 8085 microprocessor. 4
- OR**
- (c) What is time delay? Explain the time delay with one register. 5
(d) Draw and explain the circuit of tristate buffer. 5
4. (a) Write the three features of interrupt RST 4·5. 3
(b) Explain the function of IO/M, READY, HOLD and HLDA in Direct Memory Access. 7
- OR**
- (c) Explain the maskable and non-maskable interrupt. 5
(d) Explain the vector interrupt in detail. 5

5. (a) Draw and explain the block diagram of successive approximation. 6
(b) Explain the working of analog-to-digital converter with a block diagram. 4

OR

- (c) Explain the working of digital-to-analog converter with a block diagram. 4
(d) How do you interface analog-to-digital signal? 6

★ ★ ★