HCX-003-027504   Seat No. _____

M. Sc. (ECI) (Sem. V) (CBCS) Examination

October / November - 2017

Paper - 20 : Basic Microprocessor & Interfacing

Faculty Code : 003
Subject Code : 027504

Time : $2\frac{1}{2}$ Hours]   [Total Marks : **70**

Instructions :   (1)   All questions carry equal marks.

(2)   Figures on right hand side indicate marks.

1   Answer the following : (any **seven**)   **14**

(a)   What is the function of PC and SP in 8085 microprocessor ?

(b)   Define interrupt in.8085 chip.

(c)   What is the DMA, cycle ?

(d)   What is microprocessor ?

(e)   Write the function of HOLD pin of 8085 chip.

(f)   Define serial and parallel data transfer.

(g)   Write the function of DCX rp and DAD rp instructions of 8085 microprocessor.

(h)   Write the function of chip select pin of the 8259 chip.

(i)   What is the ISR ?

(j)   Write the initialization command words of 8259 chip.

2   Answer the following : (any two)   **14**

(a)   Write a note on general purpose and special purpose registers of 8085 chip.   **7**

(b)   Write a note on interrupts of 8085 microprocessor.   **7**

(c)   Explain the timing process of 8085 chip.   **7**

3 Answer the following :   **14**

  (a) Explain the following instructions :   **7**

      LXI rp, data

      STA addr

      DAA

      Jcond addr

      RAL

      RAR

      CMP M

  (b) Explain the 2-Key lockout and N-key rollover option in detail.   **7**

OR

3 Answer the following :   **14**

  (a) Explain the Mode 2 of operation for 8253 chip.   **7**

  (b) Explain the programming of 8259 chip.   **7**

4 Answer the following :   **14**

  (a) Explain Mode 0 of operation for 8255 chip.   **7**

  (b) Assume the contents of the Accumulator are AAH and CY = 0 Illustrate the contents of Accumulator after the execution of the RLC instruction twice.   **7**

5 Answer the following : (any two)   **14**

  (a) Explain the functional block diagram of 8255 chip in detail.   **7**

  (b) Explain the functional block diagram of 8251 chip in detail.   **7**

  (c) Explain the functional block diagram of 8259 chip in detail.   **7**

  (d) Explain the functional block diagram of 8253 chip in detail.   **7**