PC-003-027504 Seat No. _____

M. Sc. (E. C. I.) (Sem. V) (CBCS) Examination

June / July - 2018

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 questions : (any **seven**) **14**

(i) What are the various flags used in 8085 microprocessor ?

(ii) What is program counter in 8085 microprocessor ?

(iii) Write an 8085 assembly language program that will store the contents of an Accumulator and flag register at locations 8000H And 8001H.

(iv) How many I/O devices can 8257 access ?

(v) Write the function of an 8279 chip.

(vi) Define interrupt. How many interrupts are available in 8085 chip ?

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

(viii) What is the ISR ?

(ix) Write the function of HOLD pin of an 8085 microprocessor.

(x) What is the DMA cycle ?

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

(a) Draw and explain the architecture of an 8085 microprocessor. **7**

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

(c) Explain the 2-key lockout option and the N-key rollover option and also explain MVI, LXI, LDA, STA, XCHG instruction with example. **7**

3 Answer the following questions : 14

(a) Draw and explain the timing diagram for execution of the instruction in 8085 microprocessor. 7

(b) Write a note on addressing modes of an 8085 microprocessor. 7

OR

3 Answer the following questions : 14

(a) Explain Mode-2 of an 8255 chip with suitable diagram. 7

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

4 Answer the following questions : 14

(a) Write an 8085 assembly language program for the following : 7

(i) Subtract two values and save the result of subtraction at the memory location 8100H.

(ii) Add two 8-bit numbers without considering the carry.

(b) Explain Mode-0 of operation "interrupt on terminal count" of 8253 chip. 7

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

(a) Draw and explain the functional block diagram of 8259 chip in detail. 7

(b) Draw and explain the functional block diagram of 8255 chip in detail. 7

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

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