Total No. of printed pages = 3

Co-403/Microp/4th Sem/Comp/2017/M

MICROPROCESSOR

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer any *five* questions.

1. (a) State the differences in the register set of 8085 and 8086 (General purpose as well as special purpose) mentioning the function of each register. 8

   (b) Define :

   (i) Instruction cycle

   (ii) Machine cycle. 4+2=6

2. (a) Explain the various addressing modes available in 8086 with an example in each case. 8

   (b) What do you mean by address space ? Briefly illustrate the memory mapped I/O and I/O mapped I/O scheme of addressing. 2+4=6

[Turn over

3. (a) Differentiate between :

(i) One pass assembler and two pass assembler.

(ii) Synchronous and Asynchronous data transfer schemes.

(iii) Programmed data transfer and DMA data transfer. 2+3+3=8

(b) State the functions of the following pins : 6

(i) A L E

(ii) IO/$\overline{M}$

(iii) READY.

4. (a) Write assembly language programs to do the following : 3+3=6

(i) Evaluate the expression :

A/B + C * D

(ii) Add the even numbers between 1 to 10.

(b) Describe the role of ISS (Interrupt Service Subroutine). 4

(c) State the different groups of instruction in the 8085 instruction set with an example from each group. 4

5. (a) What does a timing diagram represent ? Draw the dining diagram of the I/O write cycle showing the different signals involved in the operation. 2+5=7

(b) Draw the block diagram of 8255 and briefly explain the functions of each block. 5

(c) Mention the different functions performed by the timer. 2

6. (a) Write short notes on any *three* : 3×4=12

(i) Interfacing of 7 segment display.

(ii) Interfacing of stepper motor.

(iii) Application of microprocessor.

(iv) Segment in 8086.

(b) What is the difference between hardware and software interrupt ? 2