

Total No. of printed pages = 6

Co-403/Micro/4th Sem/2018/M

MICROPROCESSOR

Full Marks – 70

Time – Three hours

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

PART – A

Marks – 25

1. Match the contents of column A with the contents of column B : 10×1=10

Column – A	Column – B
(i) I/O M	(a) DMA
(ii) DMA controller	(b) Instruction cycle
(iii) $S_1=1, S_2=0$	(c) 8085
(iv) Data transfer scheme	(d) Goes high to indicate I/O operation
(v) Timer	(e) General purpose register

[Turn over

Column - A	Column - B
(vi) Segment registers	(f) Unmaskable interrupt
(vii) INTR	(g) 8086
(viii) Fetch cycle	(h) Indicates I/O read operation
(ix) SP	(i) 8257
(x) MOV B, A	(j) 8253
	(k) Maskable interrupt
	(l) Special purpose register
	(m) Register Addressing

2. Fill in the blanks :

5×1=5

- (i) _____ converts assembly language programs to object code.
- (ii) 8 bits can address _____ memory space.
- (iii) _____ contains the address of the instruction to be executed.
- (iv) 8086 address bus is _____ bits.
- (v) 8085 has _____ flags.

3. Choose the correct option : $5 \times 1 = 5$

(i) If data is present in a register and it is referred using the particular register, then it is

- (a) direct addressing mode
- (b) register addressig mode
- (c) immediate addressing mode
- (d) indexed addressing mode

(ii) DIP stands for

- (a) Digital Inline Package
- (b) Direct Inline Package
- (c) Dual Inline Package
- (d) None of these

(iii) When the speed of microprocessor and device match _____ data transfer is used.

- (a) DMA
- (b) Asynchronous
- (c) Synchronous
- (d) Interrupt driven

- (iv) 8255 PPI has
- (a) five ports
 - (b) three ports
 - (c) four ports
 - (d) two ports
- (v) 8251 (USART) is a
- (a) 30 pin DIP
 - (b) 40 pin DIP
 - (c) 26 pin DIP
 - (d) 28 pin DIP

4. State true or false : 5×1=5

- (i) 8086 has six addressing modes.
- (ii) 8259 has eight interrupt request line.
- (iii) CMP is an example of implicit addressing.
- (iv) In case of memory mapped I/O scheme, I/O devices are treated separate from memory.
- (v) Intel 4008 was the first 4-bit microprocessor.

PART - B

Marks - 45

5. Answer the following questions (any five) :

$3 \times 5 = 15$

- (i) Define microprocessor and state its few applications.
- (ii) What is multiplexing ?
- (iii) Explain the DMA scheme.
- (iv) Write an ALP to calculate the area of a circle.
- (v) State the function of RESET IN, RESET OUT and HLDA pins in 8085.
- (vi) Specify the purpose of zero flag and parity flag.

6. Answer the following questions (any four) :

$5 \times 4 = 20$

- (i) Write a brief note on the interrupts of 8085.
- (ii) Explain the Programmable Interval Timer chip stating its different operational modes.
- (iii) Draw the timing diagram of I/O read cycle.

- (iv) Explain interfacing of a LED display with the help of a diagram.
- (v) Explain with suitable diagram, interfacing of relay with microprocessor.

7. State the function of the following blocks of 8085 :

2×5=10

- (i) Instruction decoder.
- (ii) General purpose registers.
- (iii) Stack pointer.
- (iv) Timing and control unit.
- (v) Accumulator.