

**END SEMESTER / RETEST EXAMINATION 2020****( New Syllabus )****Semester: 4th****Subject code: CO-403 (NEW)****Subject: Microprocessor and Interfacing****Full Marks: = 70****Duration: 3 hours***1. Questions on Part A are compulsory*

Questions no.	Questions	Marks
Q1	Fill in the blanks :	10 x 1
a)	There are _____ types of addressing modes in 8086.	
b)	An instruction cycle consists of _____ and _____ cycle.	
c)	8086 is a _____ bit microprocessor.	
d)	When the results of an operation has even parity, the parity bit is set to _____.	
e)	80386 has _____ segment registers.	
f)	Direction flag is used with _____ instructions. String	
g)	8255 has _____ ports.	
h)	The DMA controller has _____ channels.	
i)	80386 has eight _____ bit register.	
j)	80486 has _____ pins.	
Q2	State true or false	5 x 1
a)	NMI is a software interrupt.	
b)	The contents of SI and DI registers are used in based addressing mode.	
c)	The BIU contains the segment registers.	
d)	LEA instruction is used to load the address of operand into the provided register.	
e)	Flag register of 80386 is 16 bit.	
Q3	Match the following	5 x 1
	Column A	Column B
a)	8259	i) accumulator
b)	8255	ii) Synchronous mode
c)	8253	iii) PPI
d)	Programmed data transfer	iv) PIC
e)	AX	v) programmable interval timer
Q4	Choose the correct option :	5 x 1
a)	IF is called the i) instruction flag                      ii) interrupt flag iii) initial flag                          iv) none of these	
b)	Size of every segment in 8086 is i) 32K                      ii) 38K                      iii) 62K                      iv) 64K	



c)	The size of the registers of 8086 are i) 8 bits      ii) 12 bits      iii) 16 bits      iv) 20 bits	
d)	In 8086 the overflow flag is set when i) The sum is more than 16 bit ii) Carry and sign flags are set iii) Signed numbers go out of their range after an arithmetic operation iv) During subtraction	
e)	The BIU fetches the instruction from memory and stores them in i) register      ii) memory      iii) stack      iv) queue	

**Answer Q.5 and any four from the rest .**

Questions no.	Questions	Marks
Q5	Explain the BIU and EU of 8086 stating their components and function of the units.	5
Q6 a:	State the different functions of the following: i) General purpose registers ii) Stack pointer iii) Instruction pointer	2 x 3
b:	State the functions of the following pins of 8086: i) MN/MX ii) HLDA iii) ALE iv) BHE	4 x 1
Q7 a:	Explain the base addressing and indexed addressing modes of 8086.	2 x 2
b:	Write a brief note on assemblers.	3
c:	Write an ALP to evaluate $A+B/C * D$	3
Q8 a:	Explain the different programmed data transfer schemes	5
b:	Define the terms address space and multiplexing.	1 + 1
c:	What are the different hardware and software interrupts in 8086.	3
Q9 a:	Briefly explain the USART and its functions.	5
b:	Draw and explain the timing diagram of memory read operation.	5
Q10 a:	State the differences in the architecture and register organisation of 80386 and 80486 .	5
b:	Explain the function of the DMA controller.	5
Q11 a:	Explain the different groups of instruction in the 8086 instruction set	6
b:	Differentiate between memory mapped I/O and I/O mapped I/O.	4
Q12 a:	Explain with a diagram the interfacing of a stepper motor with 8086.	4
b:	Write an assembly language program to find the factorial of a number.	3
c:	Explain the functions of the different ports of 8255.	3

\*\*\*\*\*

