III B.Tech II Semester Supplementary Examinations, November - 2019
MICROPROCESSORS AND MICROCONTROLLERS
(Electrical and Electronics Engineering)

Time: 3 hours   Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**
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<u>PART –A</u>   **(22 Marks)**

1	a)	Write a note on fourth generation microprocessor.	[3M]
	b)	Write the arithmetic instructions of 8086 i) DEC; ii) SUB; iii) SBB.	[4M]
	c)	Write a short note on Assembler Directive.	[4M]
	d)	Write a note on peripheral clock.	[3M]
	e)	Discuss briefly about microcontroller.	[4M]
	f)	Write the two methods to identify whether any key is pressed or not in matrix keyboard interface of 8051.	[4M]

<u>PART –B</u>   **(48 Marks)**

2	a)	Draw and explain the pin diagram of 8086 processor.	[8M]
	b)	List and explain the three segment registers of 8086.	[8M]
3	a)	Explain the given data transfer instruction of 8086: i) MOV ii) PUSH iii) XLAT iv) PUSHF v) POPF.	[8M]
	b)	What is the function of ready pin 8086? Draw the circuit diagram for wait state generation between 0 and 7 wait states and draw the corresponding timing diagrams.	[8M]
4	a)	What is nested macro? How do you pass parameters to Macro?	[8M]
	b)	Write an Assembly language program to find LCM of two 16-bit unsigned numbers.	[8M]
5	a)	Draw and explain the internal block diagram of 8255.	[8M]
	b)	Write an assembly language program to rotate a 4-shift stepper motor: i) in clockwise 5 rotations ii) in anticlockwise.	[8M]
6	a)	Draw the oscillator circuit of 8051 and explain its working procedure.	[8M]
	b)	Write short notes on Serial Communication.	[8M]
7	a)	Write an 8051 subroutine to control the 7-segment displays operation.	[8M]
	b)	Draw and explain how push button and LED can be connected to 8051?	[8M]

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