Code No: R1632023 **R16** SET - 1

III B. Tech II Semester Supplementary Examinations, February-2022

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. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART –A (14 Marks)

1.	a)	List out the features of 8086 microprocessor.	[2M]
	b)	Explain indirect memory addressing with an example.	[2M]
	c)	Draw the pin diagram of 8255 PPI.	[2M]
	d)	What is the function of Timer in 8051 microcontroller?	[3M]
	e)	Write the special function registers used by the I/O ports in PIC.	[3M]
	f)	Write a short note on Bitwise shift operator in PIC.	[2M]

PART –B (56 Marks)

2.	a)	Write the general bus operation of 8086 microprocessor.	[7M]
	b)	Explain the physical memory organization of 8086 microprocessor.	[7M]
3.	a)	Discuss about the branching instructions of 8086 microprocessor.	[7M]
	b)	Explain the minimum mode operation of 8086 with the help of timing diagrams.	[7M]
4.	a)	Draw the block diagram of 8259 and explain each block.	[7M]
	b)	Illustrate with an example, to interface an A/D converter with 8086 microprocessor.	[7M]
5.	a)	Explain the serial communication in 8051 microcontroller.	[7M]
	b)	Describe the following registers of 8051 microcontroller: (i) TCON (ii) SCON (iii) SBUF (iv) DPTR	[7M]
6.	a)	Explain in detail about the File registers and Special Function Registers of PIC18.	[7M]
	b)	With a neat block diagram, explain the various features of PIC18.	[7M]
7.	a)	List out the data types of C used for PIC18.	[7M]
	b)	Write a program in C to convert ASCII digits of ‘4’ and ‘9’ to packed BCD and display it on Port C.	[7M]

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