MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

III B.Tech II Sem Supply End Examination, January 2023
Microprocessors and Microcontrollers
(Electrical and Electronics Engineering)

Time: 3 Hours.   Max. Marks: 70

Note: 1. Question paper consists: Part-A and Part-B.
2. In Part – A, answer all questions which carries 20 marks.
3. In Part – B, answer any one question from each unit.
   Each question carries 10 marks and may have a, b as sub questions.

PART- A
(10*2 Marks = 20 Marks)

1.	a)	When the 8086 processor is in minimum mode and maximum mode?	2M	CO1	BL1
	b)	List different types of 8086 hardware interrupts.	2M	CO1	BL1
	c)	What is the function of Timer?	2M	CO2	BL1
	d)	What is the difference between microprocessor and micro controller?	2M	CO2	BL1
	e)	Write short notes on USB.	2M	CO3	BL1
	f)	How to write data to serial port?	2M	CO3	BL1
	g)	List out different 16-bit registers used in ARM processor.	2M	CO4	BL1
	h)	Name few comparisons of ARM and Microcontroller.	2M	CO4	BL1
	i)	Explain the different applications of OMPA processor.	2M	CO5	BL4
	j)	What are the interrupts of CORTEX Processor?	2M	CO5	BL1

PART- B
(10*5 Marks = 50 Marks)

2	a)	Explain the following pins of 8086. i) MN / $\overline{MX}$ ii) $\overline{TEST}$ iii) $\overline{BHE}$ iv) $\overline{DEN}$	5M	CO1	BL4
	b)	Explain the concept of segment memory? What are its advantages in 8086?	5M	CO1	BL4

OR

3		Draw the block diagram of 8086 and explain BIU and EU?	10M	CO1	BL4

4	a)	Write and explain different data transfer instructions of 8051.	5M	CO2	BL4
	b)	Explain the auto reloading of Timer and Counter.	5M	CO2	BL4

OR

5	a)	How do you enable and disable 8051 interrupts?	5M	CO2	BL1
	b)	Explain difficult control words in controlling the operation of timer/counters in 8051.	5M	CO2	BL4

6	a)	Write a program to interface 4×4 keyboard to 8086 through ports A and B operating at I/O base addresses 0FFF9. Draw the necessary interface details.	5M	CO3	BL3
	b)	Write short notes on serial communication standards.	5M	CO3	BL1

OR

7	a)	Discuss about "On board Communication Interfaces-I2C Bus".	5M	CO3	BL2
	b)	Explain the interfacing procedure of an 8 - bit DAC with 8086 microprocessor.	5M	CO3	BL4

8	a)	List out different Branch instructions used in ARM processor and explain each one in detail.	5M	CO4	BL4
	b)	What are exceptions? Explain in detail with example.	5M	CO4	BL4

OR

9	a)	Define Pipeline? Explain the Five stage pipeline concept in ARM processor.	5M	CO4	BL4
	b)	Explain the Thumb instructions of ARM processor.	5M	CO4	BL4

10		List the main features of OMAP processor. With a neat diagram, explain the architecture of OMAP processor.	10M	CO5	BL4

OR

11		Explain Memory processing and commands used in CORTEX processor.	10M	CO5	BL4

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