Course Code: 1960404 Roll No: MLRS-R19

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
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III B.Tech II Sem Regular End Examination, June 2022

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)	Define the term macros.	2M	CO1	BL1
	b)	Which type of operation indicated by status lines of 8086?	2M	CO1	BL1
	c)	Mention the interrupt priority in 8051.	2M	CO2	BL1
	d)	What is the function of Port 3 of 8051 microcontroller?	2M	CO2	BL1
	e)	How is 8255 configured if its control register contains 80H?	2M	CO3	BL1
	f)	What is the need of UART?	2M	CO3	BL1
	g)	Discuss about software interrupt of ARM processor.	2M	CO4	BL2
	h)	What are banked registers?	2M	CO4	BL1
	i)	What are the major address ranges in CORTEX processor?	2M	CO5	BL1
	j)	Expand OMAP processor and its memory capacity.	2M	CO5	BL1

PART- B

(10*5 Marks = 50 Marks)

2	a)	Draw the Flag of register diagram of 8086 and explain the function of each flag.	5M	CO1	BL4
	b)	Discuss about physical address formation and its calculation of 8086 with example.	5M	CO1	BL2
		OR			
3		Explain the internal hardware architecture of 8086 microprocessor with neat diagram.	10M	CO1	BL4
4	a)	Explain SCON register programming in 8051.	5M	CO2	BL4
	b)	Explain the different application of real time control 8051.	5M	CO2	BL4
		OR			
5	a)	Explain the I/O pins ports and circuit details of 8051 with its diagram.	5M	CO2	BL4
	b)	Write a short note on Timers and Counters of 8051.	5M	CO2	BL1

6	a)	Explain the steps involved in the Interface an LCD display unit to 8051.	5M	CO3	BL4
	b)	Discuss about "External Communication Interfaces-RS232".	5M	CO3	BL2
		OR			
7	a)	Explain the steps involved in the interfacing of key board to 8051.	5M	CO3	BL4
	b)	Write short notes on serial communication standards.	5M	CO3	BL1
8	a)	What are the salient features of ARM instruction set?	5M	CO4	BL1
	b)	Describe various modes of operation of ARM processor.	5M	CO4	BL2
		OR			
9	a)	Write short notes on memory access and branch instructions of ARM controller.	5M	CO4	BL1
	b)	Explain pipeline mechanism in ARM processor.	5M	CO4	BL4
10		Compare CORTEX Processor architecture and OMAP Processor architecture in all aspects.	10M	CO5	BL2
		OR			
11		What are the different types of OMAP processors? Explain their features in brief.	10M	CO5	BL4

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