Code: 19A261T

III B.Tech. II Semester Supplementary Examinations May/June 2024
Microprocessors and Microcontrollers
(Electrical and Electronics Engineering)

Max. Marks: 70   Time: 3 Hours
Answer *any five full questions* by choosing one question from each unit (5x14 = 70 Marks)
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		Marks	CO	BL

UNIT–I

1.	Explain the instruction set of 8086 microprocessors with suitable examples.	14M	CO1	L2

OR

2. a)	Explain various Addressing modes of 8086 microprocessor.	7M	CO1	L2
b)	Write an 8086 ALP to find the sum of numbers in the array of 10 elements.	7M	CO1	L3

UNIT–II

3. a)	Illustrate the D/A converter interfacing with 8086 µP	7M	CO2	L2
b)	Interface DAC AD7523 with an 8086 CPU running at 8 MHz and write an assembly language program to generate a sawtooth waveform of period 1ms with V_{max} 5V .	7M	CO2	L4

OR

4. a)	Discuss the following methods of data transfers (i) Polling (ii) Interrupt driven	7M	CO2	L2
b)	The DMA controlled data transfers are faster than the polling and Interrupt driven data transfers". Justify	7M	CO2	L1

UNIT–III

5. a)	Explain the pin structure of RS232C and discuss about voltage and current specifications of RS232C.	7M	CO3	L2
b)	Write an assembly language program to initialize 8251 and transmit and receive 100 bytes of data.	7M	CO3	L3

OR

6.	Explain 8251 UART Architecture and it's functionality.	14M	CO3	L2

UNIT–IV

7. a)	With a diagram list the specific features of 8051	7M	CO4	L3
b)	Write an ALP to find square root of a numbers and store the result in R0	7M	CO4	L4

OR

8. a)	Explain the bit contents of IE and IP registers.	7M	CO4	L2
b)	Write an assembly language program to find the largest element from given array of data.	7M	CO4	L4

UNIT–V

9. a)	Briefly explain about different data operations used in ARM processor.	7M	CO5	L1
b)	Explain the versions of ARM. Discuss ARM7 TDMI Features.	7M	CO5	L2

OR

10. a)	What are the advantages of arduino controller	7M	CO5	L1
b)	Write the addressing modes of ARM microcontrollers.	7M	CO5	L1

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