Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fifth Semester B.Tech Degree Regular and Supplementary Examination December 2020

Course Code: MR303

Course Name: MICROPROCESSORS AND MICROCONTROLLERS

Max. Marks: 100   Duration: 3 Hours

PART A
Answer all questions, each carries 5 marks.

1	Give a detail description about the pin diagram of 8086.	5
2	List out various data transfer instructions of 8086 and write one example for each instruction.	5
3	How can we initialize 8259 programmable interrupt controller.	5
4	Summarize the salient features of 8051 microcontroller.	5
5	Write down the various arithmetic instructions used in 8051 and give an example for each instruction.	5
6	Discuss about the purpose and show how 8051 microcontroller works for DAA instruction.	5
7	Explain the interfacing of Parallel ADC with 8051 microcontroller	5
8	Elucidate the interfacing of DAC 0808 with 8051.	5

PART B
Answer any three questions, each carries 10 marks.

9		Draw and explain about the architecture of 8086 processor.	10
10		What are the various addressing modes of 8086? Explain each with examples.	10
11		Illustrate the architecture of 8259 and explain in detail about each block.	10
12	a)	Give a brief description about memory organization of 8051 microcontroller.	5
	b)	List out various special function registers of 8051 and mention their uses.	5
13	a)	Differentiate between minimum mode and maximum mode of 8086 microprocessor.	5
	b)	Write a short note on Jump and Call instructions of 8086 microprocessor.	5

PART C
Answer any two questions, each carries 15 marks.

14	a)	Describe in detail about the addressing modes of 8051 with example.	8

b) Develop an assembly language program for 8051 to find square and square root of a number.   7

15 a) Write the algorithm and program to find sum of elements in an array of size 10.   7

b) Elucidate about 8051 interrupts.   8

16 a) Draw the diagram of 4x4 matrix keyboard interfaced to 8051 microcontroller and explain in detail.   10

b) Design an 8051 microcontroller interfaced with serial ADC and explain in detail.   5

17 a) Draw and explain about the interfacing of external RAM and ROM.   15

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