Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

V SEMESTER B.TECH DEGREE EXAMINATION(S), MAY 2019

Course Code: AE305

Course Name: MICROPROCESSORS & MICROCONTROLLERS

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

			Marks
1	a)	With the help of neat diagrams explain the data buffering and address latching of 8086	(7)
	b)	What you mean by a Procedure? Write any 4 differences between macro and procedure	(5)
	c)	Define interrupt? What is ISR and how it is handled?	(3)
2	a)	With the help of a neat diagram explain assembly process of 8086	(8)
	b)	Write the functions of the following signals i) READY ii) DT/R iii) ALE iv) TEST	(4)
	c)	Describe the Flag register in 8086	(3)
3	a)	Explain the minimum mode configuration of 8086	(7)
	b)	What are assembler directives and explain about LENGTH, EVEN, DQ and EQU assembler directives	(5)
	c)	Describe stack operation with example	(3)

PART B

Answer any two full questions, each carries 15 marks.

4	a)	Draw and explain the Superscalar architecture of Pentium Processor	(8)
	b)	Explain the Status Register of 8087	(3)
	c)	Draw the interfacing circuit of 8086 and 8087	(4)
5	a)	Explain the procedure for interfacing 8086 with 8K RAM. Also draw the interfacing circuit.	(8)
	b)	Explain the Descriptor of 80386	(5)

	c)	Give any 4 special features of Pentium processor	(2)
6	a)	Explain the branch prediction mechanism in Pentium Processor with an example	(8)
	b)	Draw the architecture of 8087 Numeric Processor	(5)
	c)	Explain the functions of the following signals of 8087 i) BUSY ii) QS1 and QS0	(2)

PART C

Answer any two full questions, each carries20 marks.

7	a)	Discuss the addressing modes of 8051 with 2 examples	(10)
	b)	Write any 3 differences between microcontroller and microprocessors	(3)
	c)	Write an assembly language program for 8051 to find the largest number from an array of 'N' numbers.	(7)
8	a)	Compare the following instructions i) MOV A,#15H ii) MOV A,15H iii) MOV C,15H	(3)
	b)	Describe PSW register of 8051	(5)
	c)	Write an assembly language program to interface DAC with 8051. Also draw the circuit schematic.	(12)
9	a)	Explain byte addressable register set of 8051	(10)
	b)	Draw the interfacing circuit of 8051 with external memory	(3)
	c)	Assuming XTAL frequency = 11.0592 MHz, write an assembly language program to generate a square wave of 50 Hz frequency on pin P2.3.	(7)