00000AE305121901

Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

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

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)	Explain the linking process.	(5)
	b)	Compare between procedure and macro.	(5)
	c)	What are the different sources of interrupts in 8086 microprocessor?	(5)
2	a)	Draw and explain the pin details of 8086 microprocessor.	(5)
	b)	Draw the maximum mode configuration of 8086 and explain about the important signals.	(7)
	c)	What are the minimum mode signals of 8086 microprocessor?	(3)
3	a)	Draw and explain the bus buffering and latching of 8086.	(7)
	b)	Draw and explain memory read cycle of 8086 microprocessor.	(5)
	c)	What are the advantages of memory segmentation?	(3)

PART B
Answer any two full questions, each carries 15 marks.

4	a)	With suitable diagram explain the interfacing of RAM with 8086 microprocessor.	(7)
	b)	What are the main features of 8087 co-processor?	(5)
	c)	Explain the functions of QS1 and QS0 queue status signal.	(3)
5	a)	Explain the architecture of 8087 co-processor.	(7)
	b)	List the different modes of 80386 microprocessor.	(3)
	c)	With suitable diagrams explain the paging operation of 80386 microprocessor.	(5)
6	a)	What are the special features of Pentium processor?	(5)
	b)	Explain about Superscalar architecture.	(5)
	c)	What are the functions of TSS in 80386 microprocessor?	(5)

PART C
Answer any two full questions, each carries 20 marks.

7 a) With suitable diagram explain the RAM space allocation of 8051 (7)
microcontroller.

b) What are the different addressing modes of 8051 microcontroller? (7)

c) Write an assembly language program in 8051 to generate a time delay of 1µS. (6)

8 a) Write an assembly language program to interface a stepper motor with 8051 (10)
microcontroller.

b) Explain the flag and PSW register of 8051 microcontroller. (5)

c) What are the different data types and directives of 8051 microcontroller? (5)

9 a) What are the different JUMP and CALL instructions in 8051 microcontroller? (5)

b) Write an assembly language program to interface external keyboard with 8051 (10)
micro controller.

c) Explain the Stack operation of 8051 microcontroller. (5)

****