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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIFTH SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2017

Course Code: CS305

Course Name: MICROPROCESSORS AND MICROCONTROLLERS (IT, CS)

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks. Marks

1		List the registers used in 8086 microcontroller.	(3)
2		Describe function of the following signals of 8086. i) INTR ii) READY iii) HOLD	(3)
3		State the significance of assembler directives in an assembly language program with suitable examples?	(3)
4		Compare macro and subroutine?	(3)

PART B

Answer any two full questions, each carries 9 marks.

5		Draw and explain the internal block diagram of 8086.	(9)
6		What are the different addressing modes supported by 8086? Give explanation with suitable examples.	(9)
7	a)	Give the architectural and signal differences between 8086 and 8088?	(4)
	b)	Write an assembly language program to find the largest number from an unordered array of 8-bit numbers?	(5)

PART C

Answer all questions, each carries 3 marks.

8		Describe interrupt cycle of 8086/88 with neat diagram.	(3)
9		Give description of the following interrupts: (i) Non maskable (ii) Maskable	(3)
10		Compare I/O mapped interfacing and memory mapped interfacing.	(3)
11		Mention the salient features of basic I/O mode operation of 8255.	(3)

PART D

Answer any two full questions, each carries 9 marks.

12	a)	Interface two 4K x 8 EPROMs and two 4K x 8 RAM chips with 8086. Select suitable address maps.	(6)
	b)	Give a brief description about interrupt service routine.	(3)
13		Draw the internal architecture of 8259 and explain.	(9)
14		Describe different modes of operation of the following peripheral ICs: i) 8255 ii) 8279	(6)

PART E

Answer any four full questions, each carries 10 marks.

15	a)	What are the different types of microcontrollers?	(5)
	b)	What factors are needed to be considered for selecting a microcontroller?	(5)
16		Give brief description of memory and I/O addressing of 8051.	(10)
17		What are different addressing modes supported by 8051?	(10)
18		Draw the internal architecture of 8051 with brief description.	(10)
19		Draw and explain the internal architecture of 8254/8253.	(10)
20		Write an 8051 based assembly language program to perform addition of two 2x2 matrices.	(10)

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