R13

Code No: 126AK

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, July - 2023

MICROPROCESSORS AND INTERFACING DEVICES

(Electrical and Electronics Engineering)

Time: 3 hours **Max. Marks: 75**

Note: i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART - A

(25 Marks)

1.a)	Write the flag register of 8086 µP.	[2]
b)	What is pipe lining? How is it achieved in 8086 µP?	[3]
c)	Define macros in 8086 µP.	[2]
d)	Explain the operation of the following instructions of 8086. i) MOVSB ii) PUSH iii) RCL	[3]
e)	What is Interrupt Vector Table? What is the size of IVT?	[2]
f)	Draw CWR register of 8255 and write the significance of each bit.	[3]
g)	Write about troubleshoot common issues in a communication interface?	[2]
h)	Explain the concept of baud rate and its significance in serial data transfer?	[3]
i)	What are the applications of 8051 microcontroller?	[2]
j)	What are the I/O ports in the 8051 microcontroller and how many pins do they have?	[3]

PART - B

(50 Marks)

2.	Explain the different maximum mode signals present in 8086 µP.	[10]
	OR	
3.	Draw and explain the interrupt structure of 8086 µP.	[10]
4.	Explain different addressing modes of 8086 µP with examples.	[10]
	OR	
5.	Write an ALP to sort ten 8-bit numbers in ascending order.	[10]
6.	What is memory address decoding? Design a memory system for 8086 for the following specifications: a) 32 Kbytes EPROM using 16 Kbyte devices. b) 64 Kbytes SRAM using 16 Kbyte devices. Draw the memory map.	[5+5]
	OR	
7.	What are the various modes of operation supported by the 8259 PIC? Explain.	[10]

8. Discuss the RS232C serial data standard and IEEE 488 GPIB standard in detail. [10]

OR

9. Explain the mode instruction control word format of 8251. [10]

10. Draw and explain the architecture of 8051 Microcontroller. [10]

OR

11. Describe the memory organization of 8051 microcontroller. [10]

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