Code No: 126AK **R13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, May - 2019
MICROPROCESSORS AND INTERFACING DEVICES
(Electrical and Electronics Engineering)

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

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a)	Define Pipeline process?	[2]
b)	Draw the Flag register of 8086 microprocessor.	[3]
c)	Define macro.	[2]
d)	List out the different Instruction formats used in 8086 Microprocessor in detail.	[3]
e)	What is need of DMA?	[2]
f)	List out different ICW's and OCW's of 8259 PIC.	[3]
g)	Define trouble shooting.	[2]
h)	Define the terms Simplex, Half Duplex and Full Duplex Communication standards.	[3]
i)	Define Microcontroller? List out different 8-bit Microcontroller in detail.	[2]
j)	List out the few comparison of Microprocessor and Microcontroller in detail.	[3]

PART - B

(50 Marks)

2.a) Draw the internal architecture of 8086 Microprocessor and explain the function of each block.
b) Explain the physical memory organization of 8086 Microprocessor with one example. [5+5]

OR

3.a) Draw the pin diagram of Maximum mode of 8086 microprocessor and explain the function of each pin.
b) Draw the Minimum mode read operation timing diagram and explain its operation of 8086. [5+5]

4.a) Define addressing mode? List out the different Addressing modes used in 8086 Microprocessor and explain each addressing mode with one example.
b) Write an assembly Language program to find the largest number in an 8-bit array. [5+5]

OR

5.a) What is assembler directives? List out different assembler directives used in 8086 Microprocessor in detail.
b) Write an assembly Language program to find Factorial of an 16-bit number. [5+5]

6.a) Draw the interfacing diagram of interfacing of a two 4K × 8 RAM and two 8K × 8 ROM with 8086 microprocessor along with memory maps.

b) Draw and Explain the concept of IC DAC 0808 along with interfacing diagram. [5+5]

OR

7.a) Draw the interrupt vector table of 8086 microprocessor and explain its importance.

b) Draw the internal architecture of 8259 PIC and explain its operation in detail. [5+5]

8.a) Draw the internal architecture of 8251 USART and explain the function of each block in detail.

b) Write short notes on IEEE -488 protocol in detail. [5+5]

OR

9.a) List out the different serial communication standards? Explain the Asynchronous serial communications with circuit diagram.

b) Explain the procedure how RS-232 is interfaced with Microprocessor with one example. [5+5]

10.a) Draw the internal architecture of 8051 microcontroller and explain its operation in detail.

b) Explain the following Special function register in detail: [5+5]
(i) TCON (ii) TMOD

OR

11.a) Write short notes on following registers of 8051 microcontroller:
(i) PCON (ii) SCON (iii) PSW

b) List out different applications of 8051 Microcontroller in detail. [8+2]

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