R16

Code No: 135BF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, November/December - 2018

MICROPROCESSORS AND MICROCONTROLLERS

(Common to EEE, EIE)

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)	What is meant by register organization in 8086 microprocessor ?	[2]
b)	What is meant physical memory organization in 8086 microprocessor?	[3]
c)	Write an overview of 8051 microcontroller.	[2]
d)	Describe about the memory organization in 8051 microcontroller.	[3]
e)	Write a short notes on RAM and ROM.	[2]
f)	What is meant by ADC and DAC?	[3]
g)	Draw the ARM core data flow model.	[2]
h)	Write short notes on registers in ARM.	[3]
i)	Mention the features of low cost debug solution in CORTEX.	[2]
j)	Mention external interfaces on Cortex processor.	[3]

PART - B

(50 Marks)

2.	Explain the architecture of 8086 microprocessor with a neat sketch.	[10]

OR

3.a)	Explain about the minimum mode pin diagram of 8086 microprocessor.	
b)	Describe the assembler directives of 8086 microprocessor.	[5+5]
	i) DW ii) SEGMENT iii) PROC and ENDP iv) ASSUME v) DUP	
4.a)	Explain about TCON special function register with a diagram in 8051 microcontroller.	
b)	Describe about the timer mode 0 with a neat sketch in 8051 microcontroller.	[5+5]

OR

5.a)	Mention about the programming of timer interrupts.	
b)	Write short notes on external hardware interrupts.	[5+5]
6.a)	Explain about the interfacing of ADC with 8051 microcontroller.	
b)	Draw a neat sketch of DAC to be interfaced with 8051 microcontroller.	[5+5]

OR

7.a)	Explain about the architecture of UART to be connected to 8051 microcontroller.	
b)	Write short notes on serial communication standards.	[5+5]

8. Draw and explain the architecture of ARM processor. [10]

OR

9.a) Write about the fundamentals of ARM processor.
b) Mention about the program status register instructions in ARM processor. [5+5]

10. Draw and explain the architecture of OMAP processor. [10]

OR

11. Explain the architecture of CORTEX processor. [10]

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