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R16

Code No: 135BF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, December - 2019

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MICROPROCESSORS AND MICROCONTROLLERS

(Common to EEE, EIE)

Max. Marks: 75

Time: 3 Hours

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 as sub questions.

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PART - A

(25 Marks)

- 1.a) What is the function of bus interfacing unit?
- b) List the rules for memory segmentation.
- c) What is the size of program counter and SP register in 8051?
- d) In 8051, which register bank conflicts with the stack? Why?
- e) Define monotonocity.
- f) How to write data to serial port?
- g) What are banked registers?
- h) Discuss about software interrupt of ARM processor.
- i) What are the registers of OMAP Processor?
- j) What are the interrupts of CORTEX Processor?

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PART - B

(50 Marks)

- 2.a) Discuss the addressing modes of 8086? Give examples.
 - b) List and explain with examples, the addressing modes of 8086 μ p.
- OR**
- 3.a) Discuss all types of jump instructions used in 8086 microprocessor.
 - b) Write an 8086 ALP to find the sum of numbers in the array of 10 elements.

[5+5]
[5+5]

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- 4.a) Explain the logical separation of program and data memory.
- b) Explain masking operation by using logical instructions.

[5+5]

OR

- 5.a) What are the factors affecting the accuracy of the delay? Explain the stack operation in 8051.
- b) Explain the auto reloading of Timer and Counter.

[5+5]

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- 6.a) Explain RS 232 C hand shaking signals.
- b) Explain ADC and DAC specifications.

[5+5]

OR

- 7.a) Explain the steps involved in the interfacing of key board to 8051.
- b) Explain about external memory interfacing to 8051.

[5+5]

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- 8.a) Describe various modes of operation of ARM processor. [5+5]
b) What are the salient features of ARM instruction set?

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- 9.a) Write short notes on memory access and branch instructions of ARM controller. [5+5]
b) Explain pipeline mechanism in ARM processor.

10. Discuss the block diagram for CORTEX processor. [10]

- OR
11. Explain Memory processing and commands used in CORTEX processor. [10]

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