

Code No: 135BF**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year I Semester Examinations, December - 2019****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 as sub questions.

PART – A**(25 Marks)**

- 1.a) What is the function of bus interfacing unit? [2]
- b) List the rules for memory segmentation. [3]
- c) What is the size of program counter and SP register in 8051? [2]
- d) In 8051, which register bank conflicts with the stack? Why? [3]
- e) Define monotonicity. [2]
- f) How to write data to serial port? [3]
- g) What are banked registers? [2]
- h) Discuss about software interrupt of ARM processor. [3]
- i) What are the registers of OMAP Processor? [2]
- j) What are the interrupts of CORTEX Processor? [3]

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. [5+5]
- 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]
- 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]
- 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]

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

OR

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

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

OR

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