

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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