

Code No: 156BU**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year II Semester Examinations, August - 2022****MICROPROCESSORS AND MICROCONTROLLERS****(Electrical and Electronics Engineering)****Time: 3 Hours****Max.Marks:75**

Answer any five questions
All questions carry equal marks

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- 1.a) Define addressing mode and explain different addressing modes presented in 8086 microprocessor.
- b) Draw the 8086 microprocessor internal architecture and explain the operation of each block. [8+7]
- 2.a) What are the different segments registers in 8086? Why need memory segmentation?
- b) What is the length of the instruction Queue in 8086? Discuss the use of the queue. Explain the reason for limiting the length of the queue. [8+7]
- 3.a) Draw the 8051 Microcontroller architecture and explain its operation in detail.
- b) Classify and explain the instruction set of 8051 microcontroller. [8+7]
- 4.a) Explain the programming development tools in 8051 microcontroller.
- b) Draw and explain the function of each pin of 8051 family microcontroller. [8+7]
- 5.a) Draw the 8251 USART architecture and explain the operation of each block of it.
- b) Write short notes on ADC interfacing with 8051 in detail with suitable diagram. [8+7]
- 6.a) Explain the concept of External Communication Interfaces-RS232 along with diagram.
- b) Write short notes on Keyboard interfacing with 8051. [8+7]
- 7.a) Draw the architecture of ARM controller and explain the operation of each block in it.
- b) Explain the different Thumb programming model of ARM controller with examples. [8+7]
8. Draw the block diagram of CORTEX Processor and explain the function of each block in detail. [15]

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