

Code No: 56012

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD**B. Tech III Year II Semester Examinations, November/December - 2015****MICROPROCESSORS AND MICROCONTROLLERS****(Common to EEE, ECE, EIE, ETM, ICE)****Time: 3 hours****Max. Marks: 75****Answer any five questions
All questions carry equal marks**

- 1.a) Define Queue and explain the need for the queue in 8086 microprocessor with respect to pipelining.
- b) Draw the register organization of 8086 microprocessor and explain operation of each register. [8+7]
- 2.a) Define addressing mode and explain different addressing modes used in 8086 microprocessor with examples.
- b) Define Macro and explain its importance used in 8086 microprocessor assemble language program with example. [8+7]
- 3.a) Draw the architecture of 8255 PPI and explain its internal operation in detail.
- b) Explain the concept of 4-phase stepper motor and give its interfacing diagram with 8086 microprocessor. [8+7]
- 4.a) Draw the Interrupt vector table of 8086 microprocessor and explain different interrupts presented in 8086 microprocessor.
- b) Draw the internal architecture of 8259 PIC and explain its operation in detail. [8+7]
- 5.a) Explain different methods of serial communication standards with examples.
- b) Draw and explain the IEEE-488 prototype standards in detail. [8+7]
- 6.a) Draw the internal architecture of 8051 microcontroller and explain its features in detail.
- b) Briefly explain difference between Microprocessor and Microcontroller. [8+7]
7. Draw and explain the frame format of following 8051 Special function register:
(a) TCON (b) TMOD (c) SCON (d) PCON [4+4+4+3]
- 8.a) Draw the AVR family architecture and explain the operation of it.
- b) Explain the concept of memory access and instruction execution sequence in RISC processor. [8+7]