

Code No: **R32044**

# R10

# Set No. 1

### III B.Tech II Semester Supplementary Examinations, April -2017

# MICRO PROCESSORS AND MICRO CONTROLLERS

**(Common to Electronics and Communications Engineering, Electronics and Computer Engineering, Bio-Medical Engineering, Electronics and Instrumentation Engineering)**

**Time: 3 hours****Max. Marks: 75**

**Answer any FIVE Questions**

**All Questions carry equal marks**

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|---|-----------------------------------------------------------------------------------------------------------|-------|
| 1 | a) Describe in detail about the register organization of 8086 microprocessor.                             | [8M]  |
|   | b) Explain about memory segmentation and instruction queue.                                               | [7M]  |
| 2 | a) Write an ALP in 8086 to count number of positive and negative numbers from an array of 8-bit integers. | [10M] |
|   | b) List out various assembler directives used in ALP of 8086 microprocessor.                              | [5M]  |
| 3 | a) Draw the interfacing diagram of an ADC to 8086 and explain.                                            | [8M]  |
|   | b) Explain different modes of operation of 8086.                                                          | [7M]  |
| 4 | a) Explain signal description of 8279 with neat diagram.                                                  | [8M]  |
|   | b) What is necessity high speed serial communication? Explain any one serial communication bus            | [7M]  |
| 5 | a) Explain segmentation and paging schemas in 80386.                                                      | [7M]  |
|   | b) Explain the CPU with a numeric co-processor 80486DX.                                                   | [8M]  |
| 6 | a) Discuss any four signal descriptions of 8051                                                           | [7M]  |
|   | b) Explain interrupt structure of 8051 microcontroller                                                    | [8M]  |
| 7 | a) Write overview and features of PIC microcontroller.                                                    | [7M]  |
|   | b) Explain interrupts in PIC16C61/71.                                                                     | [8M]  |
| 8 | a) Explain ARM / Thumb programming model.                                                                 | [7M]  |
|   | b) Discuss ARM Thumb instruction set.                                                                     | [8M]  |

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