

### III B.Tech II Semester Supplementary Examinations, April/May - 2019

## MICRO PROCESSORS AND MICRO CONTROLLERS

(**Common to** Electronics and Communication Engineering, Electronics and Instrumentation Engineering and Electronics and Computer Engineering)

Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)

2. Answering the question in **Part-A** is compulsory

3. Answer any **THREE** Questions from **Part-B**

## PART-A

1.
  - a) Define the assembly directives. Give any two examples. [4M]
  - b) What are the pins that are used to indicate the type of transfer in minimum mode? [4M]
  - c) Write note on dynamic RAM interfacing. [3M]
  - d) Explain the concept of memory paging. [4M]
  - e) How does 8051 differentiate between the internal and external program memory. [3M]
  - f) Write note on interrupts in PIC16C61/71. [4M]

**PART-B**

- |    |    |   |      |
|----|----|---|------|
| 2. | a) | Explain the procedure of converting linear address into physical address.                         | [8M] |
|    | b) | Explain the flag register of 8086.  | [8M] |
| 3. | a) | What is the major disadvantage of an 8086 operating in minimum mode and an 8086 operating in 8086 | [8M] |
|    | b) | Why are buffers often needed on the address bus, data and control buses in microcomputer system?  | [8M] |
| 4. | a) | Write an 8051 subroutine to control the 7-segment display operation.                              | [8M] |
|    | b) | Write about keyboard interfacing with 8051.   | [8M] |
| 5. | a) | Discuss the real address mode and protected mode of 80386.  | [8M] |
|    | b) | Discuss the instruction set of 80386.   | [8M] |
| 6. | a) | Discuss about 8051 series microcontrollers in expanding the memory.                               | [8M] |
|    | b) | What are the interrupts of 8051? Explain them briefly.  | [8M] |
| 7. | a) | Explain how I/O ports and timers are significant in PIC microcontroller.                          | [8M] |
|    | b) | Discuss the Thumb instruction set of ARM controller.  | [8M] |

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