

Code: IT5T5

III B.Tech - I Semester – Regular Examinations - December 2016

**MICROPROCESSORS AND MICRO CONTROLLERS
(INFORMATION TECHNOLOGY)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11x 2 = 22 M

1.

- a) Compare Microprocessors and Microcontrollers.
- b) Write the features of 8085 Microprocessor.
- c) Write assembly language Instructions to set and clear Direction Flag(DF) for 8086 Microprocessor.
- d) Explain the following 8086 pins
 - i) HOLD and HLDA
 - ii) NMI
- e) Draw the PSW of 8051 Microcontroller.
- f) Differentiate between the usage of timers and counters in 8051Microcontroller.
- g) Write the features of ARM processor.
- h) What is the difference between FIQ and IRQ interrupts of ARM.
- i) Explain about Serial Peripheral Interface.
- j) List out software development tools for ARM
- k) Differentiate CISC and RISC architectures.

PART – B

Answer any **THREE** questions. All questions carry equal marks. 16 x 3 = 48 M

2. a) With a neat block diagram explain the architecture of 8085 processor. 8 M
- b) Explain various registers available in 8085 microprocessor. 8 M
3. a) Write an assembly language program for 8086 microprocessor to reverse a given string “Microprocessors for IT”. 8 M
- b) Explain different addressing modes of 8086 microprocessor with suitable examples. 8 M
4. a) Explain the memory organization of 8051 microcontroller 8 M
- b) Explain the following instructions of 8051 8 M
i) DA ii) ANL iii) JNB iv) NOP
5. a) Explain register organization in various operating modes of ARM processor. 8 M

- b) Explain main features of ARM instruction set and also describe the following instructions of ARM. 8 M
- i) BL
 - ii) MLA
 - iii) SWI

6. a) Explain Analog to Digital Conversion with an example 8 M

- b) Write short notes on 8 M
- i) Cross compilers
 - ii) Linker / locator