PVP 14

Code: IT5T5

III B.Tech - I Semester – Regular/Supplementary Examinations
October 2017

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) What is program counter?
b) List the various flags bits available in 8085 microprocessor.
c) What is the function of ALE and IO/$\overline{M}$ signals in 8085 microprocessor?
d) What are the functions of segment registers in 8086 microprocessor?
e) Explain rotate instructions of 8086 microprocessor.
f) State the function of RS0 & RS1 bits of program status word in 8051 microcontroller.
g) Explain the operation of "SWAP A" instruction in 8051 microcontroller.
h) Mention the advantages and drawbacks of RISC architecture.
i) List the features of ARM instruction set.
j) Compare I^2C and UART protocols.

k) Mention the development tools available for ARM processor.

PART – B

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

2. a) Explain general purpose registers and special purpose registers of 8085 microprocessor. 8 M

b) Explain with examples branching and machine control instructions set of 8085 microprocessor. 8 M

3. a) Draw the pin diagram of 8086 microprocessor and explain the function of various signals. 8 M

b) Explain with examples addressing modes of 8086 microprocessor. 8 M

4.a) Explain the internal RAM section of 8051 microcontroller with required diagrams. 8 M

b) Explain the arithmetic, branching and bit manipulations instruction set of 8051 microcontroller. 8 M

5.a) Sketch the architecture of 16 bit ARM Processor and describe it. 8 M

b) Discuss in detail about the similarities & differences between Thumb & ARM instructions. 8 M

6.a) Draw and explain in detail about interfacing of serial peripheral interface I^2C Bus with ARM processor. 8 M

b) List the features of UART. Draw and explain the interfacing of UART and ARM processor in the application of DC motor control. 8 M