Reg. No. : | | | | | | | | | | |

Question Paper Code: 41025

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2015.

Fourth Semester

Computer Science and Engineering

(Common to Information Technology)

01UEC423 - MICROPROCESSORS AND MICROCONTROLLERS

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. List out the general purpose register in 8085.
2. Mention the significance of PC and SP.
3. How clock signal is generated in 8086? What is the maximum internal frequency of 8086.
4. Why status signals are provided in microprocessor?
5. Give the necessity for numeric data processor.
6. Write the functions of I/O processor.
7. What is a programmable peripheral device?
8. Why key de-bouncing is required in keyboard interfacing?
9. Write an assembly code segment to load accumulator, DPH, DPL using 8051 controller.
10. Specify the call statement in 8051 with its significance.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) With block diagram explain a logical functions of 8085 micro-processors. (10)

(ii) Write an assembly language program to find the largest of a list of elements. (6)

Or

(b) (i) Give suitable example and explain the addressing modes of 8085. (10)

(ii) Explain the 8085 instructions SHLD, XCHG, DAD. (6)

12. (a) (i) Draw the pin descriptions for 8086 and status signal defined in 8086. (8)

(ii) Write in detail about any four assembler directives with example. (8)

Or

(b) (i) With an example illustrate the use of MACROS in assembly coding. (8)

(ii) Describe the hardware interrupts designed in 8086. (8)

13. (a) (i) Explain in detail about closely coupled and loosely coupled configuration of multi-processors. (8)

(ii) With necessary diagram describe the signals necessary for performing communication between CPU and IOP. (8)

Or

(b) (i) Discuss the architectural and functional features of 8087 Co-processor. (8)

(ii) Write the important registers and functions designed in 8089. (8)

14. (a) Describe in detail about the operation of programmable timer (8253) under different modes. (16)

Or

(b) With block diagram explain the role of direct memory access controller in mass data transfer. (16)

15. (a) (i) Explain the rotate and swap instructions with an example for each in 8051. (6)

(ii) Describe the various modes of the 8051 timers. (10)

Or

(b) (i) Discuss the registers available in 8051 microcontroller for serial communication. (8)

(ii) Describe about memory and I/O addressing by 8051. (8)