

C 14828

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Name.....

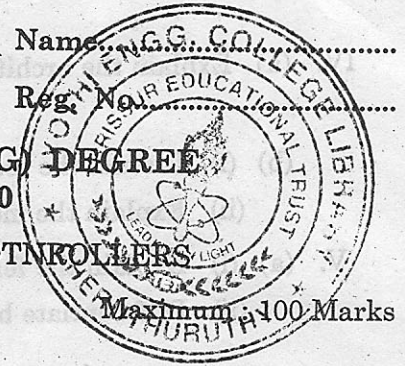
Reg. No.....

SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, DECEMBER 2010

EE 2K 601—MICROPROCESSOR AND MICROCONTROLLERS

Time : Three Hours

Answer all questions.



- I. (a) List the important features of 8085 μ P.
(b) What are assemblers ? Explain 3 assembler directives.
(c) Differentiate between memory mapped I/O and I/O mapped IO.
(d) Explain the cycle stealing process of DMA.
(e) Explain the various blocks of memory management unit.
(f) What do you understand by Superscalar architecture ?
(g) Explain the memory organisation of 8051 μ C.
(h) Differentiate between bit and byte operations in 8051 μ C with examples.

(8 \times 5 = 40 marks)

- II. (a) (i) Discuss the differences between 8086 and 8088 microprocessor. (6 marks)
(ii) Explain the function of 8086 queue. How does queue speed up process operation ? (9 marks)

Or

- (b) (i) Draw and explain the interrupt structure of 8088 μ P. (8 marks)
(ii) Discuss the various addressing modes of 8086 μ P. (7 marks)

- III. (a) Describe the operation of 8253 programmable counter/timer and write the instructions necessary to initialize 8253 for a specified application.

Or

- (b) Two $2K \times 8$ ROM's and two $2K \times 8$ RAMS are to be interfaced to the 8085 CPU. In addition one input port with address 4000 H and one output port with address 4001 H are to be connected using memory mapped I/O scheme. Design the interface with following specifications :—

- * Fully decoded section for ROM and RAM
- * Partially decoded section for I/O ports
- * ROM1 starting address 0000 H
- * ROM2 starting address 1000 H
- * RAM1 starting address B000H
- * RAM2 starting address B800H

Any other relevant data can be assumed.

Turn over

IV. (a) Explain the architecture of 80386 with block diagram.

Or

- (b) (i) Discuss the real and protected mode operation of 80386 processors.
- (ii) Explain the memory paging process.

V. (a) (i) Explain the features of 8051 μ C.

(6 marks)

(ii) Differentiate between SJMP, AJMP and LJMP in 8051.

(9 marks)

Or

(b) Discuss how the 8051 μ C can be programmed to transmit and receive serial data at a specified band rate. Explain the registers involved.

(4 \times 15 = 60 marks)

(6 \times 5 = 30 marks)

(6 marks)

(9 marks)

(8 marks)

(7 marks)

(9 marks)

(9 marks)

(9 marks)