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Name.....

Reg. No.....



**FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, DECEMBER 2008**

AI/BM 04 503—ADVANCED MICROPROCESSOR AND MICROCONTROLLERS

(2004 Admissions)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

1. (a) Explain the assembling process of an assembler in 8086.
(b) Differentiate between minimum and maximum mode of operation of 8086.
(c) What is meant by prefetch σ ? Explain with pipelining.
(d) What are the special features of Pentium Processor ?
(e) Explain the register banks of 8051 microcontroller.
(f) What are the different addressing modes in 8051 microcontroller ?
(g) Explain how Timer in 8051 is programmed in mode 3 operation.
(h) List the alternate functions of Port 3 lines of 8051 microcontroller.

(8 × 5 = 40 marks)

2. (a) (i) Discuss about linking and relocation.
(ii) Discuss about procedures in 8086.
(iii) Explain multiprocessor configuration.

(5 marks)

(5 marks)

(5 marks)

Or

- (b) With block diagram, explain the architecture of 8087 coprocessor.

(15 marks)

3. (a) With diagram, explain how physical address is generated in protected mode of operation.

(15 marks)

Or

- (b) (i) Explain super scalar execution with flow diagram.

(5 marks)

- (ii) Explain branch prediction logic in detail.

(10 marks)

4. (a) Explain the PSW register of 8051 microcontroller in detail with example.

(15 marks)

Or

- (b) Explain call and return instructions of 8051 microcontroller in detail.

(15 marks)

Turn over

5. (a) Explain the interfacing of stepper motor through 8051. Write an assembly language program to control the speed of the stepper motor.

(15 marks)

Or

- (b) (i) Write a program to perform sorting operation to sort 10, 8-bit numbers in ascending order.

(10 marks)

- (ii) Explain about programming timer interrupts.

(5 marks)

[4 × 15 = 60 marks]