A 1123

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2006.

Fifth Semester

Computer Science and Engineering

CS 334 — MICROPROCESSORS

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is a machine cycle?

2. Explain the instruction STAXD in 8085.

3. Write an assembly program using 8085 instructions for multiplying the value 03H available in Accumulator by 04H.

4. What is nested looping?

5. What are the control signals available in 8086?

6. What is the maximum addressing capability of 8086?

7. Mention the flag pattern available in 8086.

8. Compare the advantage and disadvantage of serial and parallel communication.

9. What is an SIMD?

10. What is MMX in Pentium processor?

PART B — (5 × 16 = 80 marks)

11. (i) Explain the real mode and protected mode of operation available in 80386. (8)

    (ii) Compare the salient features of 80186, 80286, 80386 and 80486. (8)

12. (a) Draw the timing diagram for CALL 8560. The content of PC is 8F54, S[P] is 9335. Assume other relevant details. (16)

Or

(b) (i) Write an assembly level program using 8085 instructions to arrange the given set of numbers in ascending order. (8)

(ii) Explain with a neat vector diagram the interrupts available in 8085. (8)

13. (a) (i) With a neat diagram explain the architecture of 8086. (8)

(ii) Explain the string operation available in 8086. (8)

Or

(b) What are the addressing modes available in 8086 explain each with an example. (16)

14. (a) Design an 8086 based temperature sensing and heater control circuitry for process control system. (16)

Or

(b) (i) What is a coprocessor? Explain the architecture of any math coprocessor. (8)

(ii) What is multiprocessor system? Explain the interconnection topologies and its software aspects. (8)

15. (a) (i) Explain with a neat diagram the working of DMA controller. (8)

(ii) Explain with a neat diagram the working of key board and display controller IC. (8)

Or

(b) Explain with neat diagram the maximum mode operation of 8086. (16)

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