B 2153

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

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. Explain SIM instruction of 8085.

2. Write briefly on data bus, control buses of 8085 processor.

3. Write briefly on the LOCK and WAIT for 8086 processor.

4. What is the role of a Linker program?

5. State the function of MIN/MAX pin in 8086.

6. Explain the function of Execution Unit in 8086.

7. What is spooling?

8. What are the 3 modes of operations of a keyboard interface chip 8279?

9. What is the need for virtual mode bit of 80386 processor?

10. Write briefly on the pipeline architecture of Pentium processor.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the architecture of 8085 microprocessor with a neat functional block diagram.

(ii) Discuss the function of signals of 8085 $\overline{\text{INTA}}$, $\overline{\text{RD}}$, ALE and HLDA.

(8 + 8)

Or

(b) (i) Draw and explain the timing diagram for the instruction MVI r, data.

(ii) What are the various status flags provided in 8085? Discuss their role. (8 + 8)

12. (a) (i) Give the 8086 architecture with neat diagram.

(ii) Write briefly on the execution unit of the processor. (8 + 8)

Or

(b) Explain briefly on the interrupt types and interrupt priorities of the 8086 processor. (16)

13. (a) What are the advantages of the multiprocessor systems over the single CPU system? Write briefly on the private I/O bus configuration. (16)

Or

(b) Write briefly on any TWO of the following :

(i) COPROCESSOR

(ii) 8089 BUS CYCLE

(iii) Classification of 8086 arithmetic instructions. (8 + 8)

14. (a) With neat block diagram explain the functional features of a 8257 DMA controller. (16)

Or

(b) With a neat block diagram explain the 8279 keyboard interface processor. (16)

15. (a) (i) Compare and contrast the salient features of 80286 and 80486 processor.

(ii) Features of the 8259 interrupt controller. (8 + 8)

Or

(b) Write briefly on :

(i) The Pentium Processor-family architecture

(ii) Instruction set categorization of X86 processor. (8 + 8)