

G 208

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2003.

Fourth Semester

Computer Science and Engineering

CS 238 — COMPUTER ARCHITECTURE — I

Time : Three hours

Maximum : 100 marks

Answer ALL the questions.

PART A — (10 × 2 = 20 marks)

1. Define Index Mode.
2. What is the role of program counter in Addressing?
3. Define overflow.
4. Write IEEE standard for floating-point format.
5. Define nanoprogramming.
6. What is meant by hard wired control?
7. Define virtual memory.
8. What is the necessary for memory hierarchy?
9. List out the types of interrupt.
10. What is DMA?

PART B — (5 × 16 = 80 marks)

11. Describe the different classes of Instruction format with example and different addressing modes. (16)

12. (a) Describe a Multiplication speed up technique.

Or

(b) Explain the floating point Addition–Subtraction unit.

13. (a) Explain the microprogrammed control unit organization.

Or

(b) Describe any one of the Hardwired control method to generate the control signals.

14. (a) With neat diagram explain the internal organization of bit cells in a memory chip.

Or

(b) What is memory interleaving? Explain the Addressing of Multiple–Module Memory system.

15. (a) Describe the Data Transfer method using DMA.

Or

(b) Write short notes on :

(i) Magnetic disk drive

(ii) Optical drives.