Reg. No. : | | | | | | | | | | | |

Q 2322

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Third Semester

Information Technology

IF 245 — COMPUTER ARCHITECTURE

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write about any two instruction formats.

2. Difference between microcontroller and microprocessor.

3. Draw the diagram of an n-bit ALU.

4. Mention the different types of adders.

5. What is meant by cache snooping?

6. What is a port? Give its purpose.

7. Define processor level parallelism and instruction level parallelism.

8. What is meant by vector processing?

9. What are fault tolerant computers?

10. Name the two successful microprocessors of RISC in 1980's.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Write about stored program organization. (8)

(ii) Write about the various addressing modes with an example for each. (8)

Or

(b) Write about stack organization. (16)

12. (a) Explain hard wired control with neat diagram. (16)

Or

(b) Explain in detail about micro programmed control. (16)

13. (a) Write short notes on :

(i) Inter-leaved memories. (8)

(ii) Virtual memory (8)

Or

(b) (i) Write about programmed I/O. (8)

(ii) Write about DMA and interrupts (8)

14. (a) Write in detail about instruction and arithmetic pipeline. (16)

Or

(b) Explain the principles of designing pipelined processors. (16)

15. (a) (i) Write about RISC machines and about its design principles. (8)

(ii) Compare RISC vs. CISC. (8)

Or

(b) Explain in detail about static and dynamic data flow design. (16)