Register Number……

M.E. DEGREE EXAMINATIONS: DECEMBER 2009

First Semester

COMPUTER SCIENCE AND ENGINEERING

CSE502: Advanced Computer Architecture

Time: Three Hours **Maximum Marks: 100**

Answer All the Questions:-

PART A (10 x 2 = 20 Marks)

1. Define Amdhals law.
2. What are the addressing modes for DLX data transfers?
3. What is speed up from pipelining?
4. When a name dependence will occur?
5. What is loop unrolling?
6. List out any two advantages of hardware based speculation.
7. What are the advantages of MIMD?
8. When spin locks are used?
9. What is relocation with respect to virtual memory?
10. What is transaction time in I/O system?

PART B (5 x 16 = 80 Marks)

11. (a) (i) Discuss in detail about the CPU performance parameters. (12)

(ii) Briefed on principle of locality. (4)

(OR)

(b) Describe the various types of Instruction set Architecture.

12. (a) (i) Explain about the instruction execution using pipelining. (12)

(ii) What are the various hazards? Describe on structural hazards. (4)

(OR)

(b) (i) Discuss the importance and details of dynamic branch prediction scheme. (8)

(ii) How finding dependences is done? Explain with example. (8)

13. (a) (i) What is trace scheduling? Give a typical drawback of it. (4)

(ii) Discuss about compiler support for ILP. (12)

(OR)

(b) What do you mean by thread level parallelism? Discuss about its significance in the present context.

14. (a) Enumerate the issues in distributed shared memory and list out its advantages. Also draw the state transition diagram.

(OR)

(b) (i) Discuss about synchronization and its performance challenges. (12)

(ii) What is Memory consistency? How it is useful. (4)

15. (a) (i) How the main memory and organization improves the performance. (12)

(ii) What is interfacing of I/O Devices? (4)

(OR)

(b) (i) Explain the I/O performance measures and its suitability in real time system. (4)

(ii) What is RAID? Brief on RAID3, RAID4 and RAID5. (12)

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