

FB/05/13 | FN/CS235

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Question Paper Code : 21315

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

Sixth Semester

Computer Science and Engineering

CS 2354/CS 64/10144 CS 604 — ADVANCED COMPUTER ARCHITECTURE

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Dynamic scheduling.
2. List the five levels of branch prediction.
3. Define loop – carried dependence.
4. What are the major disadvantages of supporting speculation Hardware.
5. What are the disadvantages of using symmetric shared memory?
6. What is consistency?
7. What is cache miss and cache hit?
8. What is the bus master?
9. What are the categories of multiprocessors?
10. What is fine grained multithreading?

PART B — (5 × 16 = 80 marks)

11. (a) What is instruction-level parallelism? Explain in detail about the various dependences caused in ILP.

Or

- (b) Explain how to reduce branch cost with dynamic hardware prediction.

12. (a) Explain how hardware support for exposing more parallelism at compile time.

Or

- (b) Explain how hardware based speculation is used to overcome control dependence.

13. (a) Discuss about the different models for memory consistency.

Or

- (b) Define synchronization and explain the different mechanisms employed for synchronization among processors.

14. (a) Explain the various levels of RAID.

Or

- (b) Explain the various ways to measure I/O performance.

15. (a) How is multithreading used to exploit thread level parallelism within a processor? Explain with example.

Or

- (b) Discuss SMT and CMP architectures in detail.