Subject Code—0111

M.C.A. EXAMINATION

(Batch 2009 Onwards)

(Fifth Semester)

ADVANCED COMPUTER ARCHITECTURE

MS-33

Time : 3 *Hours*   *Maximum Marks :* 70

Section A

Note : Attempt any *Seven* questions.   **7×5=35**

1. How data hazards can be minimized ?

2. Explain super-scalar pipeline technique.

3. Discuss loop-level parallelism.

4. What is directory based protocol ?

5. How to remove control dependences ?

6. What is snooping ? Discuss the various snooping protocols.

7. Explain inclusion and its implementation.

8. Discuss Binomials models.

9. Differentiate RISC and CISC architecture.

10. Explain Static and Dynamic dataflow.

Section B

Note : Attempt all the questions.

11. Explain synchronization techniques used in multiprocessor system. **12**

Or

(a) Discuss importance and limitation of ILP. **6**

(b) Explain the method of exploiting ILP using VLIW processor. **6**

12. Describe the basic compiler techniques for exploiting instruction level parallelism. **12**

Or

(a) Discuss about models of memory consistency. **6**

(b) Discuss the directory based cache coherence protocol. **6**

13. Describe the various basic cache optimization techniques with example. **11**

Or

(a) Discuss in detail about heterogeneous multi-core processors. **6**

(b) Write in detail about function units of vector processor. **5**