

Roll No.

Exam Code : J-19

Subject Code—0396

M.C.A. (5 Years) EXAMINATION

(5 Years Integrated Course)

(For Batch 2009 Onwards Main & Reappear)

ADVANCED ARCHITECTURE AND
PARALLEL PROCESSING

MCA-502

Time : 3 Hours

Maximum Marks : 70

Section A

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

1. Discuss Memory Consistency Models.
2. Explain Backplane Bus specification.
3. Explain Dynamic scheduling mechanism briefly.

4. Distinguish between Vector and Symbolic Processors.
5. Define the concept of message passing mechanism.
6. List various applications of pipeline.
7. Briefly discuss synchronization mechanisms.
8. List the factors on which pipeline speedup depends.
9. Briefly explain the various language that are used in parallel computing.
10. Define VLSI Model.

Section B

Note : Attempt all the questions.

11. Discuss the instruction pipeline design.
Distinguish between linear and non-linear pipelines.

Or

Compare multi-computers and multiprocessors.
Explain the PRAM model of a multiprocessor and also write a PRAM matrix multiplication algorithm. **12**

12. Discuss the various methods to remove cache coherence problem. Briefly explain the various synchronization mechanisms.

Or

Discuss Flynn's classification of parallel computer architecture. Also discuss UMA, NUMA and COMA models. **12**

13. Write short notes on the following :

- (a) Compilers used in Parallel Model
- (b) Virtual Memory Technology.

Or

Explain MIMD and SIMD computer architecture in detail. **11**