Exam. Code : 206701
Subject Code : 4645

M.Sc. (Computer Science) Semester—I

ADVANCED COMPUTER ARCHITECTURE

Paper—MCS-102

Time Allowed—3 Hours]   [Maximum Marks—100

Note :—Attempt **FIVE** questions. All questions carry equal marks.

1. Discuss the functional structure of an SIMD Array Processor. How is it different from MIMD Multiprocessor System ?

2. Explain Handler's architectural classification scheme of computer organization in detail.

3. Prove that a k-stage Linear Pipeline can be at most k-times faster than that of a non-pipelined Serial Processor.

4. Discuss major network design decisions required for Inter-PE communications for an SIMD machine.

5. Explain system architecture of a Uniprocessor Computer with example.

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6. Define the term Pipelining. Discuss the principles of Linear Pipelining.

7. Explain with the help of suitable example :

    (a) Arithmetic Pipelining

    (b) Instruction Pipelining

    (c) Processor Pipelining.

8. How various pipeline problems can be solved with the help of Reservation Table in Linear Pipeline ? Discuss.