

Exam. Code : 206701

Subject Code : 4677

**M.Sc. Computer Science 1<sup>st</sup> Semester**  
**ADVANCED COMPUTER ARCHITECTURE**  
**Paper-MCS-102**

Time Allowed—3 Hours] [Maximum Marks—100

**Note** :— Attempt **five** questions, selecting at least **one** question from each Section. All questions carry equal marks.

**SECTION-A**

1. (a) Define the term Parallel Computing. Differentiate between Vector Processor and Systolic processor.  
(b) How MIMD parallel computer is different from SIMD parallel computer ? Discuss.
2. Explain Flynn's architectural classification scheme of computer organization in detail.

**SECTION-B**

3. Discuss different available parallel computing models in brief. Explain the working of at least one in detail.
4. Discuss different categories of Parallel Processing Mechanism in Uniprocessor Computers.

### SECTION-C

5. Differentiate between :
  - (a) Parallelism versus Pipelining.
  - (b) Serial Processing versus Parallel Processing.
6. "An Array Processor uses multiple synchronized arithmetic logic units to achieve spatial parallelism". Discuss.

### SECTION-D

7. Discuss Pipeline classification schemes according to pipeline configurations and control strategies.
8. Discuss the role of Reservation Table in Linear Pipelining.