

Exam. Code : 206701

Subject Code : 4783

M.Sc. Computer Science 1st Semester (Batch 2021-23)

ADVANCED COMPUTER ARCHITECTURE

Paper –MCS-102

Time Allowed—3 Hours] [Maximum Marks—100

Note :— Attempt **FIVE** questions in all, selecting at least **ONE** question from each section. The **fifth** question may be attempted from any section. All questions carry equal marks.

SECTION–A

1. (a) Explain the working of Vector Processors along with its components. 10
- (b) Explain the concept of Interprocessor Communication and Synchronisation. 10
2. Explain Flynn's architectural classification scheme of computer organization in detail. 20

SECTION–B

3. What are the various models of Parallel Computing ? Explain the working of models which can be classified on the type of interconnections. 20
4. Discuss system architecture of a Uniprocessor Computer with example. 20

SECTION–C

5. A pipeline computer performs overlapped computations. Explain. 20
6. What do you understand by Degree of Parallelism ? Explain the Feng's Classification of computer systems in terms of parallelism exhibited by word length and bit-slice length. 20

SECTION–D

7. Explain with the help of suitable example :
 - (a) Arithmetic Pipelining
 - (b) Instruction Pipelining
 - (c) Processor Pipelining
 - (d) Multifunction Pipelining
 - (e) Vector Pipelining. 5×4=20
8. How various pipeline problems can be solved with the help of Reservation Table in Linear Pipeline ? Discuss. 20