

DD-794

M. Sc. (Fourth Semester) EXAMINATION, 2020

COMPUTER SCIENCE

(Elective—II)

Paper Third

(Advanced Computer Architecture)

Time : Three Hours

Maximum Marks : 100

Note : Attempt any *two* parts from each question. All questions carry equal marks.

Unit—I

1. (a) Explain multiprocessor and multicomputer in detail.
(b) Explain UMA, NUMA and COMA shared memory multiprocessor model.
(c) Explain the parallel computer in brief. What are the applications of parallel computing ?

Unit—II

2. (a) What is n-cube interconnection ? Explain the hypercube interconnection network.
(b) What is throughput ? Explain multistage interconnection network architecture in brief.

- (c) What is dynamic interconnection network ? Explain it with example.

Unit—III

3. (a) What is pipelining ? Explain the concept of pipelining.
(b) Explain pipelined multiplier.
(c) What is latency cycle ? Explain reservation table in pipelining with suitable example.

Unit—IV

4. (a) Explain functional organization of instruction in IBM 360/91 in brief.
(b) Explain hazard identification techniques in advance processor technology.
(c) Define very long instruction word. Explain it with architecture.

Unit—V

5. (a) What is bitonic sequence ? Explain bitonic sort in detail.
(b) Explain Bernstein's condition.
(c) What is parallelism ? Explain matrix multiplication algorithm.