

Duration: 3 Hours

[Total Marks -80]

N.B. (i) **Q. No. 1** is compulsory

(ii) Attempt any **three** questions out of the remaining **five** questions

- | | | |
|----------|---|-----------|
| 1 | (a) How Pipeline Architecture is different from Array Processor architecture | 05 |
| | (b) Explain the various types of Parallel Programming Models? | 05 |
| | (c) Explain a method of Dynamic Instruction scheduling for minimizing hazards. | 05 |
| | (d) Explain Dataflow Computer with examples. | 05 |
| 2 | (a) Explain different types of pipeline Hazards and the techniques used to eliminate those hazards. | 10 |
| | (b) Describe Architectural Model of Distributed System with neat diagram. | 10 |
| 3 | (a) Discuss in detail the various performance metrics in parallel computing. | 10 |
| | (b) Explain Lamport's Distributed Mutual Algorithm. | 10 |
| 4 | (a) Explain Matrix Multiplication on SIMD. | 10 |
| | (b) Discuss File caching for Distributed Algorithm. | 10 |
| 5 | (a) Compare and contrast Task Assignment, Load Balancing and Load Sharing approaches | 10 |
| | (b) Explain call Semantics of RPC. | 10 |
| 6 | (a) Describe any one Election algorithm in detail with an example. | 10 |
| | (b) Explain File Accessing Models. | 10 |

----- x -----