UNIT-I

1. Explain the concept of Virtual Organizations in Grid Computing.
2. Describe the architecture of Grid Computing and its relation to various distributed technologies.
3. What is the Grid Computing Road Map, and how does it help in the development and implementation of Grid Computing systems?
4. Discuss the role and features of the GLOBUS GT3 Toolkit in Grid Computing.
5. Differentiate between Data Grids and Computational Grids with relevant examples.

UNIT- II

1. Explain the architectural differences between shared-memory and distributed-memory systems in parallel computing.
2. Describe in detail the Message Passing Interface (MPI) programming paradigm.
3. Explain task scheduling and load balancing in parallel computing.
4. What is Amdahl’s Law, and how does it relate to the limitations of parallel computing?
5. Discuss the role and design of interconnection networks in parallel computer architectures.

UNIT-III

1. Explain the fundamental components and architecture of a cluster computing system.
2. Analyze the process of resource allocation and job scheduling in cluster computing systems.
3. Identify the challenges involved in building and maintaining cluster systems and propose solutions.
4. Describe the working and significance of the Message Passing Interface (MPI) in cluster computing.
5. Examine the role of load balancing and fault tolerance mechanisms in improving cluster performance.