GRID AND CLOUD COMPUTING

Unit-I:-

Introduction: ① Evolution of Distributed computing:
1. Scalable computing over the Internet
2. Techologies for n/w based s/m's
3. clusters of cooperative computers
4. Grid computing Infrastructures.
5. Cloud computing
6. Service oriented architecture.
7. Introduction to Grid Architecture & standar
8. Elements of grid.
9. Overview of grid Architecture.

Unit-II:-

GRID SERVICES: 1. Introduction to open Grid Services Architecte (OGSA)
2. Motivation
3. Functionality Requirements
4. Practical & Detailed view of OGSA/OGSI.
5. Data intensive grid service models
6. OGSA services.

Unit-III:-

VIRTUALIZATION: 1. cloud deployment models: 1. public
2. private
3. hybrid
4. community

5. categories of cloud computing: 1. Everything as a Service:
   1. Infrastructure
   2. Platform
   3. s/w
   4. Pros & cons of cloud computing
   5. Implementation levels of virtualization
   6. Virtualization structure
   7. Virtualization of CPU
   8. Memory & I/O devices
   9. Virtual clusters & Resource Management
   10. Virtualization for data center automation.

Unit IV :- PROGRAMMING MODEL :

1. Open Source grid middleware packages
2. Global Toolkit (GT4) Architecture
3. Configuration
4. Usage of Globus
5. Main Components & programming model
6. Introduction to Hadoop Framework
7. Mapreduce
8. Input splitting
9. Map & reduce functions
10. Specifying i/p & o/p parameters.
11. Configuring & running a job.
12. Design of Hadoop file sys
13. HDFS concepts

14. Command line & java interface
15. Dataflow of file read & file write.

Unit-V :-

SECURITY : 1. Trust models for Grid security environment
2. Authentication & Authorization methods
3. Grid security infrastructure
4. cloud infrastructure security : 1. Network,
2. Host & application level.
3. Aspects of data security
4. Provider data and its security
5. Identity & access management architectur
6. IAM practices in the cloud.
7. SaaS, PaaS, IaaS. Availability in the cloud
8. Key privacy issues in the cloud.