



CS6703 GRID AND CLOUD COMPUTING

Question Bank

Unit-I

Introduction

Part A

1. Define Grid Computing.
2. Define Cloud Computing.
3. Analyze the working of GPUs.
4. **List** out the cluster design.
5. **Differentiate** computational , data grid with P2P grids.
6. **Discuss** on SOA.
7. What is QOS?
8. **Summarize** the technologies available in grid standards
9. **Name** the standards in WSRF.
10. **Describe** the standards related to web service.
11. **Summarize** the elements of grid.
12. **Generalize** the layers in grid architecture.
13. **Define – Distributed Computing.**
14. **What is meant by scheduler?**
15. **What is meant by resource broker?**

Part B

1. Explain in detail about virtual organization. (16)
2. Write about the scope of grid computing in business areas. (16)
3. Explain some of the grid application and their usage patterns. (16)
4. Write short notes on. (16)
 - a) Schedulers
 - b) Resource broker
 - c) Load balancing
 - d) Grid portals
5. What are the data and functional requirements of grid computing? (16)
6. Explain briefly about grid infrastructure. (16)
7. Describe in detail about the Technologies for network based systems?(16)



Unit-II

GRID SERVICES

PART – A

Define OGSA.

2 **Illustrate** the relationship between resources and service.

3 **List** the major goals of OGSA.

4 **Summarize** on the goals of GGF.

5 **Classify** the software technologies associated with OGSA.

6 **Formulate** the OGSA grid service interfaces.

7 **Summarize** on grid service migration using GSH and GSR.

8 **Analyze** the OGSA security model at various protection levels.

9 **Discuss** the strategies of data replication.

10 **List** the model for organizing the data grid. 11

11. **Differentiate** parallel data transfer versus striped data transfer.

12 **Give** the basic services of OGSA.

13 **Define** WSRF

14 **Point out** the objectives of OGSA

15 **Deduce** the fundamental requirements for describing Web services based on the OGSI

PART –B

1)Write short notes on Open Grid Service Architecture. (16)

2)Explain in detail, the functional requirements of OGSA. (16)

3)Explain Practical & Detailed view of OGSA/OGSI. (16)

4) Explain in detail, OGSA services.(16)

5)Describe about the relation of grid architecture with other distributed technologies.(16)

6)What are the third generation initiatives of grid computing? (16)

7)Discuss briefly about organization building and using grid based solution to solve their computing data and network requirements.(16)



VIRTUALIZATION

PART - A

1. What is the working principle of Cloud Computing?
2. What is Virtualization?
3. Define Cloud services with example.
4. What are the types of Cloud service development?
5. Discuss design requirements of VMM.
6. List the design objective of cloud.
7. **Define** public private and hybrid clouds.
8. **Define** IaaS.
9. **Generalize** on PaaS and SaaS.
10. **Show** the levels of virtualization implementation
11. **Compare** binary translation with full virtualization
12. **Discuss** the design issues of virtual clusters
13. **Where** OS level virtualization is needed?
14. **Compare** host based virtualization and para virtualization.
15. **Discuss** on the support of middleware for virtualization.

PART - B

- 1) Write short notes on cloud deployment model. (16)
- 2) Explain in detail, categories of cloud. (16)
- 3) Explain in detail, pros and cons of cloud. (8)
- 4) Explain in detail, different implementation level of virtualization? (16)
- 5) Write short notes on OS level virtualization. List the pros and cons of OS level virtualization. (16)
- 6) Explain in detail, the virtualization of CPU, Memory and I/O devices. (16)
- 7) Write short notes on virtual clusters. (8)
- 8) Explain in detail, the virtualization for data center automation. (16)



UNIT IV PROGRAMMING MODEL

Part -A

- 1.What is TheGlobus Toolkit Architecture(GT4)
2. What is GT4 library?
- 3.What is meant byGlobus Container ?
- 4.What arethe Functional Modules in Globus GT4Library?
- 5.What is meant byinputsplitting?
- 6.What arethe five categories of Globus Toolkit 4 ?
- 7.What arethe are the available input formats?
- 8.What is meant byHDFS?
9. What is meant byBlock
- 10.Differentiate Namenodes andDatanodes
- 11.List the various Hadoop filesystems ?
- 12.What is meant by FUSE?
- 13.What is Hadoop Filesystem ?
- 14.How to Reading Data from a Hadoop URL
- 15.How to write data in Hadoop?
- 16.How are Deleting Data are Deleted in Hadoop ?
- 17.Illustrate MapReduce logical dataflow
- 18.What are two types of nodes that control the job execution process?
- 19.Illustrate MapReduce data flow with a single reduce task
- 20.Illustrate MapReduce dataflow with multiple reduce tasks

Part -B

1. Explain the Globus Toolkit Architecture(GT4)
2. Explain MapReduce Model in detail
3. Explain Map&Reducefunction?
4. Explain HDFS Concepts in detail?
5. Explain Anatomy of a FileRead?
6. Explain Anatomy of a Filewrite?



UNIT – V

SECURITY

Part - A

1. **Give** the challenges to establish trust among grid sites.
- 2 **Define** IDS.
- 3 **Summarize** on reputation trust model.
- 4 **List** the steps to accomplish fuzzy interference.
- 5 **Relate** authentication and authorization methods in grid environment.
- 6 **Evaluate** the authorization model of grid security
- 7 **Define** trust delegation chain
- 8 **Formulate** the categories of authorization for access control.
- 9 **Discuss** on GSI.
- 10 **Differentiate** transport level security and message level security
- 11 **Compose** the primary pieces of information of a certificate in GSI authentication.
- 12 How will you **measure** the mutual authentication between two parties?
- 13 **Illustrate** the sequence of trust delegation.
- 14 **Discuss** the risk factors of network level of cloud infrastructure.
- 15 **Tabulate** the security levels at the network level.

PART – B

1. Examine in detail about trust model for grid security enforcement
2. Explain briefly authentication and authorization methods
3. Describe the cloud security infrastructure.
4. Explain the grid security infrastructure.
5. Explain the concepts of aspects of data security.
6. Discuss in detail about architecture of IAM.
7. Explain IAM practice in cloud.