



**DHANALAKSHMI SRINIVASAN COLLEGE OF ENGINEERING AND
TECHNOLOGY**

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

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

1. 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 OGS

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)

UNIT – III

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 The Globus Toolkit Architecture (GT4)
2. What is GT4 library?
3. What is meant by Globus Container ?
4. What are the Functional Modules in Globus GT4 Library?
5. What is meant by input splitting?
6. What are the five categories of Globus Toolkit 4 ?
7. What are the available input formats?
8. What is meant by HDFS?
9. What is meant by Block
10. Differentiate Namenodes and Datanodes
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 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.