

**DHANALAKSHMI SRNIVASAN ENGINEERING COLLEGE
PERAMBALUR-621212**

IT1012, GRID COMPUTING

QUESTION BANK

**UNIT-I
GRID COMPUTING**

PART – A

1. Define grid computing.
2. What is the definition for grid concept given by Foster?
3. What is QOS?
4. What are the features of computational grid?
5. What are the features of data grids?
6. Mention the foundations of grid computing.
7. What is business on demand?
8. Name some earliest grid activities.
9. How is grid computing used in engineering and design?
10. List the Grid Business Areas.
11. Define Schedulers.
12. Define Resource Broker.
13. List the Grid Application.
14. What is the need of Load Balancing in Grid Computing?
15. What are the complicated areas in Implementation stage of Grid Infrastructure?
16. Write about Resource Management of Grid Computing.
17. Differentiate Data Grid and Computation Grid.

18. What is Virtual Organization?

PART – B

1. Explain in detail about virtual organization. (16)
2. Explain in detail about Early Grid Activities. (8)
3. Write a note on Grid Schedulers. (6)
4. How do Resource Brokers provide “pairing” services between service requesters and service providers? (10)
5. Discuss in detail any two important functionalities that must be provided by this grid computing infrastructure. (16)
6. Write about the scope of grid computing in business areas. (16)
7. Explain some of the grid application and their usage patterns. (16)
8. Write short notes on. (16)
 - a) Schedulers
 - b) Resource broker
 - c) Load balancing
 - d) Grid portals
9. What are the data and functional requirements of grid computing? (16)
10. Explain briefly about grid infrastructure. (16)

UNIT-II
GRID COMPUTING INITIATIVES

PART – A

1. Name the classification of grid computing organization based on their functional role.
2. What are the basic goals of GGF?
3. What are the high level services including in existing globus tool kit?
4. Mention the important characteristic of legion system
5. What are the core objects defined by legion system?
6. Compare and contrast condor and condor _G.
7. Name the components available in Nimrod architecture?
8. What are the scheduling algorithms used in Nimrod_G?
9. What are the major objectives of Euro grid project?
10. What is the application specific work packages identified for the Euro grid?
11. Define dynamic accounting system.
12. Mention the characteristic of connectivity layer?
13. What are the two primary classes of resource layer protocols?
14. What are the collective services available in grid computing? What are the basic principles of autonomous computing?
15. What are the essential capabilities provided by on demand business?
16. What are the two most important technologies for building semantic webs?
17. Define GRAM.

18. Define GSI.
19. How do peer-peer environment differ from grid environments?
20. Write about Autonomic computing.

PART – B

1. Explain about the organization developing grid standards and best practices guidelines. (8)
2. Explain about the organization working to adopt grid concepts into commercial products. (8)
3. Discuss briefly about organization building and using grid based solution to solve their computing data and network requirements. (16)
4. Write notes on organizations developing grid computing toolkits frameworks and middleware solution. (16)
5. Explain the layered architecture of grid with a neat diagram. (16)
6. Describe about the relation of grid architecture with other distributed technologies. (16)
7. Write notes on
 - a. Autonomic computing. (4)
 - b. BOD and infrastructure virtualization. (4)
 - c. Service oriented architecture and grid. (4)
 - d. Semantic grids. (4)
8. What are the third generation initiatives of grid computing? (16)
9. Explain briefly about Legion Toolkits. (8)
10. How are grid organization classified? Explain giving examples. (16)

UNIT-III

GRID COMPUTING APPLICATIONS

PART – A

1. What are the two commonly understood SOA architecture?
2. Define SOA.
3. Draw the Web Service Architecture.
4. Define web service agents.
5. What are the fundamental components of SOAP specification?.
6. What are the features of SOAP?
7. What are the mechanisms available to implement the features of SOAP?
8. Write notes on Message exchange pattern.
9. List out the difference between WSDL 1.1 and WSDL1.2.
10. What is the vision behind global XML architecture?
11. What are the components available in service model?
12. Write notes on WS-Trust.
13. Write notes on WS –Federation.
14. What are the classifications of service state management?
15. Write about SOAP modules.
16. Draw Web Service Architecture.
17. Name the service policy components.
18. Write the relationship between Web services and Grid Services.

PART – B

1. Explain briefly about SOA. (16)
2. Explain briefly about Web service architecture. (16)
3. Explain in detail about SOAP. (16)
4. What are the service message description mechanisms available? Explain in briefly about WSDL. (16)
5. Discuss in detail about global XML Architecture vision. (16)
6. Discuss in detail about web service and grid service. (16)
7. Explain in detail about Basic Profile guidelines. (16)
8. Explain about GXA Security standards. (16)
9. Explain how SOAP is used to package and envelope XML web service messages. (16)
10. Explain how web services are used for defining interoperable resources in grid computing. (16)

UNIT-IV

GRID COMPUTING TECHNOLOGICAL VIEWPOINTS

PART-A

1. What are the major goals of OGSA?
2. What are the more specific goals of OGSA?
3. What are the main purposes of use cases defined by the OGSA group?
4. Name some representational use cases from OGSA architecture working group.
5. Who are the actors in CDC?
6. Mention the scenarios CDC.
7. What are the functional requirements of CDC on CGSA?
8. Who are the actors in NFC?
9. Mention the scenarios NFC.
10. What are the functional requirements of NFC on CGSA?
11. Who are the actors in NFC?
12. Mention the scenarios NFC.
13. What are the functional requirements of NFC on CGSA?
14. Who are the actors in COMMERCIAL GRID?
15. Mention the scenarios COMMERCIAL GRID.
16. What are the functional requirements of COMMERCIAL GRID on CGSA?
17. What are the layers available in the OGSA architectural organization?
18. What are the OGSA basic services?
19. What are the two dimensions of stateful nature of web service

PART-B

1. Describe the architecture of OGSA. (16)
2. Explain briefly about commercial data center. (16)
3. Explain briefly about NGC. (16)
4. Explain briefly about Commercial grid. (16)
5. What are the OGSA platform components? Write note on each of them. (16)
6. Describe in detail about the inheritance interface diagram. (16)
7. Describe in detail about service data concepts. (16)
8. Explain briefly about CMM. (16)
9. What are the OGSA basic services? Explain each of them with necessary diagrams. (16)
10. (a) Write notes on policy architecture. (8)
(b) Write notes on security architecture. (8)
11. (a) Write notes on metering and accounting. (8)
(b) Write notes on common distributed logging. (4)
(c) Write notes on distributed data access and replication. (4)

UNIT-V

GRID COMPUTING TOOLKITS

PART-A

1. What are the two aspects involved in GRAM?
2. What are the two kinds of life cycle model associated with state data recovery?
3. What are the default state management supports available in GT3?
4. Write the combination of Globus GT3 toolkit.
5. What is a GT3 core?
6. What are the major components of default server side frame work?
7. Write notes on Grid container.
8. What are two levels of security available in GT3?
9. What are the treatments to the operation involved in service activation?
10. What are the treatments to the operation involved in service De activation?
11. What are the three ways available to create and add service data to service data set
12. What are the steps involved in creating SDE
13. What are the most common GT3 security handlers?
14. What are the client side security handlers?
15. What are the two modes available to encode operation parameters?
16. What are the requirements to be fulfilled for information service in the context of GT3?
17. Define Peer to Peer computing.

PART-B

1. Explain the Architecture of globus GT3 toolkit with a neat diagram. (16)
2. Describe about the information management services available in GT3 (16)
3. Describe about the index services available in GT3. (16)
4. What are the resource management services offered by GT3? (16)
5. Write notes on data management services. (16)
6. Explain briefly about service programming model. (16)
7. Explain in detail about Acme search service implementation in top down approach. (16)
8. Discuss in detail about OGSI.NET Middleware Solutions. (16)
9. Describe in brief about service Programming model. (16)
10. (A)Write notes on Grid service life cycle model. (8)
(B)Write notes on JAX-RPC Handlers. (8)
11. (A)Explain the architecture of GRAM with a neat diagram (4)
(B)Write notes on common GT3 security handler (8)
(C)Write notes on common client side security handlers (4)