

DEPARTMENT OF INFORMATION SCIENCE AND TECHNOLOGY &
DEPARTMENT OF INFORMATION TECHNOLOGY
ANNA UNIVERSITY, CHENNAI
B.Tech INFORMATION TECHNOLOGY – VI Semester- R2009
IT9354 GRID COMPUTING

Max Marks: 100

Duration: 3 Hrs

Part A (10 x 2 = 20 Marks)
Answer ALL Questions

1. State any two major differences between parallel computing and distributed computing.
2. Write down the steps to implement and run a DCOM client/server application..
3. What are the functions of archiving consumer in GMA?
4. What are the various types of time related data in grid monitoring?
5. What does Public Key Infrastructure refer to?
6. What is the purpose of GSI delegation capability?
7. Define the term grid portlet from the user's perspective and application development perspective.
8. What are the limitations of pull model of scheduling jobs?
9. Mention any two major differences between scientific applications and business applications in terms of data.
10. What are the four important services provided by a grid portal?

Part B (5 x 16 = 80 Marks)

11. i. Discuss the various types of services provided by OGSA. (4)
 ii. Explain the service instance semantics of OGSA. (6)
 iii. Explain the service data semantics of OGSA. (6)
- 12a. i. Explain the Grid Monitoring Architecture in terms of its three components, (8)
 ii. Discuss the various review criteria that are used that are used to categorize the grid monitoring systems. (8)
- (OR)
- 12b. i. Explain the architecture of Java Agents for Monitoring and Management (JAMM) with a neat block diagram. (8)
 ii. Explain the architecture of Monitoring and Discovery Service (MDS3) in detail. (8)
- 13a. i. Discuss the various modes of authorization in the Grid Security Infrastructure (GSI). (8)
 ii. Explain the process of issuing certificates to various employees across organization using a hierarchy of Certification Authorities. (8)
- (OR)
- 13b. i. Discuss the architecture of a Condor pool. (4)

- ii. Explain the various daemons in a Condor pool. (6)
- iii. Describe life cycle of a job in Condor. (6)

- 14a. i. Explain the OGSA-DAI architecture for Data Access and Integration in grid systems. (8)
- ii. Explain structured data, ancillary data, collaboration data, personal data and service data in grid systems. (8)

(OR)

- 14b. i. Explain the role of MyProxy and Java CoG in the implementation of first generation grid portal implementation (8)
- ii. Explain the architecture of the first generation grid portal tool kits GP2 and GPKD. (8)

15a. Explain the architecture, components and features of Globus Tool Kit. (16)

(OR)

15b, Explain the architecture, components and features of Glite Grid Middleware. (16)

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