Roll No.

B.Tech. (Full Time) End Semester DEGREE EXAMINATION, NOV / DEC 2011

Information Technology

Sixth Semester

IT 9354 – GRID COMPUTING

(Regulation 2008)

Time : 3 Hours   Answer ALL Questions   Max. Marks 100

PART-A (10 x 2 = 20 Marks)

Answer ALL Questions.

1. Cluster computing is the forerunner of grid computing. Justify this statement.
2. What are the limitations of socket programming in distributed computing?
3. Mention the functions supported by the directory service of Grid Monitoring Architecture.
4. What are the three categories of information monitored by a GMA framework?
5. What is the role of a Certification Authority in providing security?
6. What do the terms none and self indicate in server side authorization in Grid Security Infrastructure?
7. Write short notes on Java CoG.
8. What are the major limitations of first-generation grid portal toolkits?
9. Mention any four major grid middleware that are in use.
10. What is the role of metadata in semantic web?

Part B (5*16=80 Marks)

11. i. Explain the COM and CORBA frameworks of distributed computing.   (8)
    ii. Explain the role of SOAP, WSDL and UDDI in providing web services. (8)

12a. i. Discuss the major review criteria that are used to categorize and classify grid monitoring systems.   (8)
     ii. Explain the role of consumer, producer and directory service of the grid monitoring architecture.   (8)

(OR)

12b. i. Explain the various layers of GridICE monitoring system. Also discuss how GridICe is able to satisfy the criteria like scalability, extensibility and fault tolerance.   (8)
     ii. Explain the general architecture of JAMM monitoring system. Also discuss how JAMM is able to satisfy the criteria like scalability, extensibility and fault tolerance.   (8)

13a. i. Explain the various components of GSI and the authorization modes of GSI. (8)
     ii. Discuss the features of symmetric and asymmetric cryptosystem with one example for each category.   (8)

(OR)

13b. i. Explain the architecture of a Condor pool.   (4)
     ii. Discuss the various daemons in a condor pool in detail.   (6)
     iii. Discuss the lifecycle of a job in Condor.   (6)

14a. i. Explain the three tiered architecture and the grid portal services of a first
generation grid portals. (8)
ii. Discuss the role of MyProxy and the Java COG in the implementation of first
generation grid portal implementations. (8)

(OR)

14b. i. Discuss portlet container, portlet life cycle and accessing web services via portlets.
(8)
ii. Discuss the development of Grid portals with portlets. (8)

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

(OR)

15b. Discuss the architecture, components and features of Glite Tool Kit. (16)