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B.E/B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL/ MAY 2012

INFORMATION TECHNOLOGY BRANCH

SIXTH SEMESTER

IT 9354-GRID COMPUTING

Time: 3 hrs

Max Marks:100

ANSWER ALL QUESTIONS

PART A (10X2=20 Marks)

1. What are virtual organisations? How are they formed?
2. Which specification is used to describe a web service? List the common elements of this interface.
3. List down the review criteria's used for evaluating a Grid monitoring system.
4. What is the function of a forecaster and where are they used?
5. Differentiate symmetric and asymmetric cryptosystems.
6. Write down the strategies used for job selection from job queue in a grid.
7. List the grid services provided by the first generation grid portals.
8. Write any four transparencies provided by loose coupled federated database.
9. Differentiate Grid and cluster computing.
10. Draw the structure of GT3 with their components.

PART B (5 X 16=80 Marks)

11. (i)Discuss on the layered Grid architecture and its relationship to internet protocol architecture. (8)
(ii)How services are discovered using UDDI and WS Inspection. (8)
12. (a)(i)Discuss on the monitoring tool that provides mechanism for client to control and subscribe to sensor for resource monitoring. (8)
(ii)Discuss on the network performance monitoring tool that identifies faults and measures network performance parameters. (8)

OR

- (b)(i)Discuss on the monitoring tool that acts a distributed information system consisting of resource and collective layer of Grid services. (8)
(ii)Discuss how detection and notification service provides a mechanism for event detection and notification as a monitoring tool. (8)

13. (a)(i) How will you choose a resource from the given possible candidates: (8)

Let the total weight=10.

Where CPU weight=4 and RAM weight=6.

Minimum CPU speed is 2 GHz and minimum RAM size is 256 Mb.

Resource information matrix

	CPU speed GHz	CPU Load %	RAM size Mb	RAM usage %
Resource1	2.2	50	256	50
Resource2	2	40	512	60
Resource3	2.4	70	512	30
Resource4	2.8	80	256	20

(ii) Discuss on Grid security flaws in detail. (8)

OR

(b)(i) How is resource discovery performed in Grid scheduling? Explain. (8)

(ii) Discuss on Grid security infrastructure in detail. (8)

14. (a)(i) Explain any two data intensive applications on the Grid. (8)

(ii) How will you access web services in a web portal via portlet. Explain. (8)

OR

(b)(i) Explain OGSA DAI architecture to show the steps involved in retrieving data from a remote database. (8)

(ii) Discuss on three tiered architecture of first generation Grid portals. (8)

15. (a) Explain GT3 core and base services in detail. Also explain GT3 programming model in detail. (16)

OR

(b) Discuss on GLITE architecture, components and features in detail. (16)