Roll No. | | | | | | | | | | |

B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2014

INFORMATION TECHNOLOGY

Semester VI

IT9354 - Grid Computing

(Regulation 2008)

Time: 3 Hours | Answer ALL Questions | Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Compare and contrast grid computing with cluster computing
2. How do the web services benefit the grid environment?
3. State the advantages of OGSI over WSRF.
4. What are the responsibilities of Ganglia Monitoring Daemon?
5. Write about the functionalities of Sensors and Sensor Manager of JAMM System.
6. How are the private keys secured in GSI?
7. State the three authorization modes of GSI in the server side.
8. Write the advantages of distributed scheduling over centralized scheduling in a grid environment.
9. List and specify the three execution modes of job run-time environments in Sun Grid Engine.
10. What is a Grid Portal?

Part – B (5 x 16 = 80 marks)

11. Discuss in detail the core services and base services of GT3. (16)

12. a) Explain the Grid Monitoring Architecture (GMA), its components and monitoring data. (16)

(OR)

b) Compare and contrast between the grid monitoring tools, Monitoring and Discovery Services (MDS) and Network Weather Service (NWS) with respect to various features. (16)

13. a) Discuss in detail the four main stages of grid scheduling. (16)

(OR)

b) Explain the architecture of LSF grid scheduling system, its daemons, job life cycle, job management and resource management. (16)

14. a) (i) Discuss the various resource matching services provided by Portable Batch System (PBS). (8)

(ii) Discuss the various job scheduling policies adopted in LSF. (8)

(OR)

b) (i) Explain how mutual authentication and credential delegation are achieved in GSI. (8)

(ii) Explain how heuristics like genetic algorithm and simulated annealing can be used in Grid Scheduling Optimization. (8)

15. a) Discuss in detail the three tier architecture of first generation grid portals, services and implementations. (16)

(OR)

b) (i) Write a note on various categories of structured data. (8)

(ii) Discuss the challenges associated with data management services in grid environment. (8)
