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Question Paper Code : 31294

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Eighth Semester

Computer Science and Engineering

CS 2063/CS 810/10144 CSE 65 — GRID COMPUTING

(Common to Seventh Semester Information Technology)

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What was the goal of grid initially? How has it changed?
2. Identify the functionality of the following web standards/specifications?
 - (a) SOAP
 - (b) XML
 - (c) UDDI
 - (d) WS-RF.
3. What are the attributes of data for monitoring?
4. Identify Grid monitoring systems used in each of the following.
 - (a) LHC Computing grid
 - (b) Globus Toolkit3
 - (c) GRIDS lab, Melbourne University
 - (d) NPACI Hotpage project.

5. Name the security concern of the following
 - (a) Data is not changed except by controlled processes
 - (b) Tracking what a user did to data or service
 - (c) Ensuring that the user cannot deny an action
 - (d) Making decision of who may access the data / service.
6. What model of resource discovery do you suggest for each? Why?
 - (a) Static resource environment
 - (b) Dynamically changing resources.
7. What is DAIS?
8. What is MyProxy?
9. How is grid computing differ from cluster and P2P computing?
10. List any four grid middlewares and their functionality.

PART B — (5 × 16 = 80 marks)

11. (a) How does a grid service extend a Web service? How does it fit into the OGSA? What are the port types used? Describe.

Or

 (b) (i) What is a WS-Resource? How does WSRF handle the same? Explain. (10)
 (ii) Compare and contrast WSRF with OGSI. (6)
12. (a) Describe the functionality of the components of grid monitoring architecture.

Or

 (b) Explain in detail the architecture of MDS3.
13. (a) What are the authorization modes supported by GSI? Explain.

Or

 (b) (i) What is schedule generation? Discuss the schedule generation strategies for the following resource information matrix. Assume CPU weight is 6, Ram weight is 4, minimum CPU speed is 1 GHz, RAM size is 256MB. (10)

Resource#	CPU speed (GHZ)	CPU load (%)	RAM size (MB)	RAM usage (%)
Resource1	1.8	50	256	50
Resource2	2.6	70	512	60
Resource3	1.2	40	512	30
- (ii) What is Condor-G? Explain its operation. (6)

14. (a) What are the disadvantages of first generation grid portals? How is it overcome in the second generation? Explain with the architecture of second generation grid portals.

Or

- (b) What are the challenges in data management in grid? Explain in detail data management services in grid with illustrations.
15. (a) Explain in detail the architecture of globus toolkit with the functional of the components.

Or

- (b) Explain in detail the architecture of glite with the functionality of components.

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