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Question Paper Code : 20377

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Seventh Semester

Computer Science and Engineering

CS 6703 — GRID AND CLOUD COMPUTING

(Common to Information Technology)

(Regulations 2013)

(Also common to PTCS 6703 – Grid and Cloud Computing for B.E. (Part-Time) – Sixth Semester – Computer Science and Engineering – Regulations (2014))

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Outline any two advantages of distributed computing.

2. What is service oriented architecture?

3. Define the term Web service.

4. What is a data grid?

5. Write a short note on community cloud.

6. Define the term virtual cluster.

7. What is distributed file system?

8. How MapReduce framework executes user jobs?

9. Write a short note on Kerberos.

10. What is identity and access management in a cloud environment?

PART B — (5 × 13 = 65 marks)

11. (a) (i) Outline the architecture of a cluster of cooperative computers with a diagram. (7)

(ii) Outline the similarities and differences between distributed computing, grid computing and cloud computing. (6)

Or

(b) What is grid computing? Draw a typical view of a grid environment and outline the key elements of grid. (13)

12. (a) What is open grid services architecture? Present a detailed view of open grid services architecture. (13)

Or

(b) What is open grid services infrastructure? Outline the open grid services infrastructure with a diagram. (13)

13. (a) (i) What are the pros and cons for public, private and hybrid cloud (7)

(ii) Explain virtualization of I/O devices with an example. (6)

Or

(b) What is a data center? Outline the issues to be addressed with respect to virtualization for data center automation. (13)

14. (a) Explain the main components and programming model of Globus Toolkit. (13)

Or

(b) Explain the Hadoop distributed file system architecture with a diagram. (13)

15. (a) Define authentication and authorization. Outline authentication and authorization in grids with relevant examples. (13)

Or

(b) Describe Infrastructure-as-a Service (IaaS), Platform-as-a Service (PaaS) and Software-as-a Service (SaaS) with an example. (13)

PART C — (1 × 15 = 15 marks)

16. (a) Elaborate a hybrid trust model for grid security enforcement. (15)

Or

(b) Describe a framework for building a web service with Globus Toolkit. (15)
