Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 70397

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2021.

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) – Computer Science and Engineering – Sixth Semester Regulations – 2014))

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. Tabulate the differences between high performance computing and high throughput computing.

2. Give the basic operations of a VM.

3. Define the term Web service.

4. What is a data grid?

5. Compare and contrast :

   (a) Virtualization in grid and cloud systems

   (b) Full virtualization and paravirtualisation.

6. "Cloud environment reduces operational costs" — Justify.

7. List out the main components of Globus tool kit.

8. Give the significance of heart beat message in Hadoop.

9. Mention the importance of Transport Level Security.

10. Discuss on the application and use of identity and access management.

PART B — ($5 \times 13 = 65$ marks)

11. (a) Brief the interaction between the GPU and CPU in performing parallel execution of operations. (13)

Or

(b) Illustrate with a neat sketch, the grid computing infrastructure. (13)

12. (a) (i) Why is it necessary to have a service oriented architecture in grid environment? (3)

(ii) Describe in detail the OGSA and its components. (10)

Or

(b) (i) What are the different OGSA base services ? (5)

(ii) What is the functionality of OGSA-DAIS ? Explain its conceptual model and services. (8)

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 Globus toolkit architecture in detail.

Or

(b) Illustrate the Hadoop implementation of MapReduce framework.

15. (a) Explain trust models for grid security environment.

Or

(b) Write in detail about cloud security infrastructure.

PART C — ($1 \times 15 = 15$ marks)

16. (a) Compare and contrast the cloud deployment models.

Or

(b) Analyze how MapReduce framework supports parallel and distributed computing on large data sets with a suitable example.

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