SSN COLLEGE OF ENGINEERING

Department of Computer Science and Engineering

B.E. Computer Science

CS6703 - GRID AND CLOUD COMPUTING

24 JULY 2017, 8 - 9.30 AM | **Unit Test 1** | Max Marks: 50

Academic Year: 2017-18 ODD | Batch: 2014-18

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PART A

5 × 2 = 10

1. Define and Differentiate Grid and Cloud Computing. (CO1) (K2)

2. How does Cloud Computing provide on-demand functionality? (CO2) (K3)

3.
- Whether Grid computing supports Virtualization? If yes, how? (CO2) (K3).
- Is Virtualization necessary for Cloud? Justify (CO2) (K2)

4. Sketch and define SOA. (CO1) (K2)

5. What are the design requirements of VMM? (CO2) (K2)

PART B

33 Marks

********** Answer all Questions **********

6. (a) Briefly define the following basic techniques and technologies that represent recent related advances in computer architecture, parallel processing, distributed computing, Internet technology and information services. Categorize the technique that provides advancements to above mentioned technologies. (CO1) (K3) (3+3+4+3+3)

(i) High-performance Computing (HPC) system
(ii) High-throughput Computing (HTC) system
(iii) Peer-to-peer (P2P) network
(iv) Computer cluster versus Computational grid
(v) Virtual machine versus virtual infrastructure

(OR)

(b) (i) What are the differences between multicore CPUs and GPUs in terms of architecture and usage? (CO1) (K2) (8)

(ii) What type of Virtualization is more suitable in IaaS, PaaS and SaaS service layers? Justify your answer. (CO2) (K3) (6)

(iii) How is the hardware-level virtualization issues addressed? (CO2) (K2) (2)

(P. T. O)

7. (a) Explain different types of Virtualization in Cloud Computing and give advantages and disadvantages of each type of Virtualization (CO2) (K2) (6+4)

(OR)

(b) What is the purpose for Live Migration of VM? Explain Live Migration process of a VM from one host to another with neat diagram. (CO2) (K2) (2+5+3)

8. (a) Explain the Cloud Deployment models and Services provided by Cloud with two examples for each service. (CO3) (K2) (7)

(OR)

(b) Discuss about the Pros and Cons of Cloud Computing. (CO3) (K1) (7)

PART C

7 MARKS

9. (a) Explain about the technology that is appropriate for Scientific applications, Collaborative Research and Development. Discuss about how it is different from Distributed Computing. (CO1) (K3) (7)

(OR)

(b) Suppose imagine that organizations can't get the hardware or infrastructure that a particular application needs from a public cloud provider. For example, if your workload needs a virtual machine (VM) with 24GB of RAM and just two CPUs, a public cloud provider will most likely offer you the biggest instance type (VM with higher capacity than what you require) which is available with provider and it may not be cost effective for you. And the organization demands that the application data pertaining to people in that locale remain within the country. What technologies need to be implemented to tackle this scenario? Justify your answer. (CO2) (K3) (7)

*** ALL THE BEST ***

Prepared by

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Reviewed by

HoD, CSE