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M S RAMAIAH INSTITUTE OF TECHNOLOGY

(AUTONOMOUS INSTITUTE, AFFILIATED TO VTU)

BANGALORE – 560 054

SEMESTER END EXAMINATIONS – DEC 2013 / JAN 2014

Course & Branch	:	**B.E.- INFORMATION SCIENCE & ENGG.**	**Semester**	:	**VII**
Subject	:	**Cloud Computing**	**Max. Marks**	:	**100**
Subject Code	:	**IS7E12**	**Duration**	:	**3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT – I

1. a) What is Cloud Computing? Briefly discuss the reasons for success of cloud computing and major obstacles in this domain. (10)
   b) Illustrate the limits of responsibility between the cloud user and Cloud Service Provider (CSP) at three service-delivery models (SaaS, PaaS, IaaS). (10)

2 a) Discuss ethical issues and vulnerabilities in cloud computing. (10)
   b) Illustrate how RAID-5 system can be used for reliable data storage by the Cloud Service Provider (CSP). (10)

UNIT – II

3. a) Explain different architectural styles for cloud applications. (10)
   b) Illustrate how zookeeper processes the read and write commands and list different service guarantees of zookeeper. (10)

4. a) What is MapReduce programming model? Show the sequence of actions in MapReduce programming model to count the number of occurrences of each word in a set of documents. (10)
   b) Illustrate the execution of loosely coupled workloads using Azure platform. (10)

UNIT – III

5. a) Discuss different paravirtualization strategies for virtual memory management, CPU multiplexing and I/O devices for the x86 Xen implementation. (10)
   b) Give the performance comparison of a native Linux system with OpenVZ and Xen systems by taking an example. (10)

6. a) Define the term virtualization and Distinguish between Full virtualization and para virtualization. (10)
   b) Illustrate Xen zero-copy semantics for data transfer between guest domain and driver domain over an i/o ring and event channel. (10)

UNIT – IV

7. a) Write the pseudocode and schematics for the ASCA combinatorial auction algorithm in resource bundling. (10)

   b) What is the general principle of Start-time Fair Queuing (SFQ) and list the rules followed by an SFQ scheduler. (10)

8. a) Explain the stability of two-level resource allocation architecture. (10)

   b) Illustrate the Start-time Fair Queuing (SFQ) tree when two virtual machines run on a powerful server. (10)

UNIT – V

9. a) Illustrate the interaction among client-server in Network File System (NFS) with the help of diagram. (10)

   b) Explain virtual security service provided by Virtual Machine Manager (VMM) and dedicated security Virtual Machine (VM). (10)

10. a) What is a BigTable? Enumerate the organization of a BigTable showing sparse, distributed, multidimensional map for an email application. (10)

    b) What is General Parallel File System and Explain three broad classes of security risks for cloud computing. (10)

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