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UNIVERSITY OF PUNE

[4364]-780

**B. E. (Computer Engg) Examination - 2013**

*Cloud Computing (2008 Course)*

[Time: 3 Hours]

[Max. Marks: 100]

**Instructions:**

- 1 *Answer 3 questions from Section I and 3 questions from Section II*
- 2 *Answers to the two sections should be written in separate answer-books.*
- 3 *Black figures to the right indicate full marks.*
- 4 *Assume suitable data, if necessary.*

**SECTION - I**

- Q.1      A      What is demand self service? Explain how it is implemented in cloud computing platforms.      08
- B      Compare and contrast utility computing, elastic computing and cloud computing.      08
- C      Explain monitoring challenge in cloud computing.      02
- OR**
- Q.2      A      Explain the component stack of SaaS , PaaS and IaaS.      08
- B      Explain with suitable diagram Amazon and Google Cloud models.      08
- C      Explain Network bottlenecks challenge in cloud computing.      02
- Q. 3      A      What is multi-tenancy? Explain in brief different ways to achieve multi-tenancy in application software.      08
- B      What is service composition? Distinguish mashup and traditional service composition.      08
- OR**
- Q. 4      A      What is data access control for enterprise applications? Explain with example, how data access control can be implemented.      08
- B      Explain how rich internet applications work. Compare with traditional web applications.      08
- Q. 5      A      Explain structure of Google App Engine's Data store and its underlying technologies.      08
- B      Explain with suitable example; how a relational join could be executed in parallel using map reduce model.      08

**OR**

- Q. 6      A      Explain architecture of Amazon Dynamo. How vector timestamp mechanism is used in this architecture?      08
- B      What is parallel efficiency? Discuss parallel efficiency for Map Reduce model.      08

**SECTION II**

- Q. 7      A      Why Cloud Computing brings new threats? Explain security issue from virtualization, vulnerability in virtualization and risk prevention in VMM.      10
- B      Define trusted cloud computing and explain cloud service provider Risks?      08

**OR**

- Q. 8      A      Explain various security threats and vulnerabilities inherent in virtualized systems. Discuss VM-Specific Security Techniques.      10
- B      What is identity management? Explain issues in implementing Identity Management.      08

- Q. 9      A      Explain various design issues that are to be addressed when designing a QoS- aware middleware architecture for Cloud Computing.      08
- B      Explain Quality of Service (QoS) monitoring in cloud computing environment.      08

**OR**

- Q. 10     A      Explain different module of the Quality of Service (QoS) aware Cloud Architecture.      08
- B      Enlist and explain the Quality of Service (QoS) issues that are to be addressed while designing a real time application over cloud platform.      08

- Q. 11     A      Explain Encalytus cloud Computing infrastructure and its components.      08
- B      Enlist and explain different features and functions of Apache Vitual Computing Lab.      08

**OR**

- Q. 12     A      Explain various components of Xen Cloud Platform.      08
- B      Explain various components within the Enomal Elastic Computing Platform.      08