**Birla Institute of Technology & Science, Pilani**

**Work-Integrated Learning Programmes Division**

**Second Semester 2014-2015**

**Mid-Semester Test**

**(EC-2 Regular)**

Course No. : SS ZG527

Course Title : CLOUD COMPUTING

Nature of Exam : Closed Book

No. of Pages = 1

# No. of Questions = 6

Weightage : 35%

Duration : 2 Hours

Date of Exam : 22/02/2015 (FN)

Note:

1. Please follow all the *Instructions to Candidates* given on the cover page of the answer book.
2. All parts of a question should be answered consecutively. Each answer should start from a fresh page.
3. Assumptions made if any, should be stated clearly at the beginning of your answer.
4. Answer theoretical questions with bulletin points.
5. What are ‘security groups’ and ‘key pairs’? What is their significance in Amazon AWS cloud computing environment? [4]
6. A private cloud solution is a cloud computing platform that is implemented within the corporate firewall under the control of the IT department. A private cloud can be designed to offer the same features and benefits of public cloud offerings, but removes a number of challenges of public cloud solutions including control over enterprise and customer data and other challenges around security. Assuming that some company ‘XXX’ would like to migrate its old data center to private cloud and you are the architect of the private cloud solution for that company. Summarize the challenges and possible solutions for the following. [8]
   1. Your solution should offer the same features that a public cloud offers
   2. Scalability
   3. Quality of service
   4. Issues if any, other than technology challenges of implementing a private cloud
7. What is shadow page table? Which layer of software maintains these shadow page tables in virtual environment? Does ‘shadow page table’ technique have performance overheads in virtual environment? If yes? What are they? With what mechanism ‘shadow page tables’ are replaced in Intel x86 processor architecture? Explain… [7]
8. Explain the process of provisioning a virtual machine in cloud computing environment with proper diagram. Your answer must be generic and should not follow any specific method of provisioning used by some cloud provider. [6]
9. How is Amazon DynamoDB different from MySQL database? Your answer should emphasize on database design principles. [4]
10. Compare the following [6]
11. Bare-metal hypervisor, Hosted hypervisor
12. Grid computing, Cloud computing

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