

TRBSC - CS - Sem VI

25/4/19

(2 ½ Hours)

[Total Marks: 75]

- N.B.
- 1) All questions are compulsory.
 - 2) Figures to the right indicate marks.
 - 3) Illustrations, in-depth answers and diagrams will be appreciated.
 - 4) Mixing of sub-questions is not allowed.

Q. 1 Attempt All (Each of 5Marks)

(15M)

(a) Multiple Choice Questions

i. Google App engine Provides

- a. IaaS ~~b. PaaS~~ c. SaaS d. None of these

ii. Cloud computing is a _____ system and it is necessarily unidirectional in nature.

- a. stateless ~~b. stateful~~ c. restricted d. None of these

iii. Three major components of virtualized environment are

- a. guest, host and port
b. guest, host and virtualization layer
~~c. guest, port and virtualization layer~~
d. None of these

iv. Parallel computing implies

- ~~a. loosely coupled system~~
b. tightly coupled system
c. medium coupled system
d. none of these.

v. Which is not a common virtualization?

- a. Execution Virtualization
b. Network Virtualization
c. Storage Virtualization
~~d. Interface Virtualization~~

(b) Fill in the blanks

(Live migration, live consolidation, native, private, hybrid, ²heat)

i. The _____ cloud infrastructure is operated for the exclusive use of an organization.

ii. Openstack orchestration is performed using _____ component.

iii. Cloud Bursting happens in _____ cloud.

iv. Hypervisor that does not need a host operating system is called as _____ hypervisor.

v. Moving a virtual machine while running from one server to other is called as _____

(c) Short Answers

i. What is Keystone?

ii. What is hardware-assisted virtualization?

iii. What is Type II hypervisor?

iv. What is SOA?

v. What is KVM?

Q. 2 Attempt the following (Any THREE)(Each of 5Marks)

(15M)

- (a) Explain the characteristics of Cloud computing as per NIST.
- (b) Explain the hardware architecture of Parallel Computing.
- (c) Write a short note on Amazon EC2.
- (d) What is utility computing?
- (e) Explain the concept of Cloud Computing stack.
- (f) Explain the concept of public, private and hybrid Cloud.

Q. 3 Attempt the following (Any THREE) (Each of 5Marks)

(15M)

- (a) What is Virtualization? Give the major causes for diffusion of virtualization.
- (b) Discuss classification or taxonomy of virtualization at different levels.
- (c) Explain the pros and cons of virtualization.
- (d) What are the benefits of virtualization in the context of cloud computing?
- (e) Explain various features of KVM.
- (f) List some of the challenges in cloud computing.

Q. 4 Attempt the following (Any THREE) (Each of 5Marks)

(15)

- (a) What is Devstack? Explain the steps to install Devstack.
- (b) What are the key components of OpenStack?
- (c) Explain the concept of Quota in Openstack.
- (d) Explain various deployment models of Openstack.
- (e) Explain the architecture of Neutron.
- (f) Explain the architecture of Nova.

Q. 5 Attempt the following (Any THREE) (Each of 5Marks)

(15)

- (a) Write a short note on Distributed computing.
- (b) What are the characteristics of virtualized environments?
- (c) Differentiate between Cinder and Swift in Openstack.
- (d) Explain the benefits for a start up to implement cloud infrastructure.
- (e) Explain RPC in detail.