

KATHMANDU UNIVERSITY
End Semester Examination
February/March, 2018

Marks Scored:

Level : B. E./B. Sc.
Year : IV

Course : COMP 478
Semester: I

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date

MAR 12 2018

SECTION "A"

[20Q × 0.5 = 10 marks]

Tick the best alternative.

1. Which of the following is not a cloud characteristic?
 - a. On-Demand Service
 - b. Single-Tenant.
 - c. Ubiquitous network access
 - d. Rapid Elasticity.
2. Which of the following cloud model has advantage of security concerns over others?
 - a. Private Cloud
 - b. Public cloud
 - c. Community Cloud
 - d. Both a and b
3. What difficulty often cloud administrators face concerning storage and data management?
 - a. Cutting costs
 - b. Lower costs
 - c. Lack of automation
 - d. Low operating costs
4. Which of the following is not a cloud infrastructure service component?
 - a. Integration software
 - b. Physical infrastructure
 - c. System Software
 - d. Management software
5. Geographic distribution of data across a cloud provider's network is a problem for many enterprises because it:
 - a. Breaks compliance regulations
 - b. Adds latency
 - c. security concerns
 - d. Makes data recovery harder
6. Which statement is true about the Platform as a Service cloud computing delivery model?
 - a. It provides a virtual machine and storage so that computing platforms can be created.
 - b. It provides the entire infrastructure along with a completed application that is accessible using a web based front end.
 - c. It is required by the infrastructure as a service delivery model so that end user applications can be delivered on the cloud.
 - d. It provides a runtime environment for applications and includes a set of basic services such as storage and databases.
7. What is a collection of interconnected stand-alone computers which can work together collectively and cooperatively as a single integrated computing resource pool?
 - a. Grid Computing
 - b. Cluster Computing
 - c. Parallel Computing
 - d. Distributed Computing
8. Which customer scenario best fits a deployment on a public cloud?
 - a. A customer who is not too concerned about security control over their data and the system load is almost a constant at all times.
 - b. A customer who does not have the IT infrastructure to handle variable system load.
 - c. A customer whose IT infrastructure is underutilized.
 - d. A customer who deals with highly sensitive user information.

9. Which cloud characteristic refers to the ability of a subscriber to increase or decrease its computing requirements as needed without having to contact a human representative of the cloud provider?
- a. Elasticity
 - b. Resource Pooling
 - c. On-demand self service
 - d. Broad network access
10. What is SLA?
- a. Mechanisms to ensure the required service availability and the basic security procedures to be adopted
 - b. Mechanisms to ensure the required service portability and the basic security procedures to be adopted
 - c. Mechanisms to ensure the required service reliability and the basic security procedures to be adopted
 - d. Mechanisms to ensure the required basic security procedures to be adopted
11. What is true about an application service provider?
- a. It delivers Infrastructure as a service
 - b. It delivers everything as a service
 - c. It delivers Platform as a service
 - d. It delivers Software as a service.
12. What type of hypervisor provides the highest efficiency and performance?
- a. Utility based
 - b. Storage based
 - c. Firmware based
 - d. Software based
13. Which statement is true about sharing resources in a cloud computing and cluster computing environments?
- a. Files systems are normally shared in a cloud computing environment but not in a cluster computing environment.
 - b. Files systems are normally shared in a cluster computing environment but not in a cloud computing environment.
 - c. File systems are not shared in cluster computing or cloud computing environments.
 - d. File systems are normally shared in a cluster computing and cloud computing environments.
14. Which resources are typically provided by an Infrastructure as a Service cloud computing delivery model?
- a. Virtual machines
 - b. Servers and client nodes
 - c. Applications
 - d. Virtual private networks
15. Which of the following cloud has higher chance of availability and elasticity?
- a. Private
 - b. Public
 - c. Hybrid
 - d. Community
16. Which of the following not a cloud computing platform?
- a. Cloudstack
 - b. Openstack
 - c. Amazonstack
 - d. Microsoft Azure
17. In cloud services, use of elasticity to prevent DDOS could be opportunity regarding the obstacle
- a. Data confidentiality and auditability
 - b. Performance unpredictability
 - c. Availability of services
 - d. Data lock-in
18. The mean time between failures of a cloud services gives _____ of the service.
- a. Reliability
 - b. Availability
 - c. Scalability
 - d. Elasticability

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19. Which is a very low management cloud model with reliable SLA and scalability?
 - a. Shared Private Cloud
 - b. Dedicated Private Cloud
 - c. Dynamic Private Cloud
 - d. Commodity Cloud

20. How can IT resource consolidation and virtualization help companies deliver services?
 - a. It reduces the network traffic.
 - b. It scales applications better than traditional clustering of application servers.
 - c. It creates more maintenance work but virtualization makes it easy to scale applications.
 - d. It allocates computing resources more efficiently and reduces maintenance costs.

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SECTION "B"

[6 Q × 4 =24 marks]

Attempt *ANY SIX* questions.

1. What are the pros and cons of cloud computing? How do you address the cons of cloud computing?
2. What is server consolidation? Explain with the examples.
3. What are the characteristics of PaaS? How does it differ than IaaS?
4. Compare between safety and security of a system? How can you make a system more secured?
5. How does the "Probability of failure on demand" differ to "Rate of fault occurrence"?
6. Explain the "Virtualization at the Instruction Set Architecture Level" as per the paper "A survey in Virtualization Technologies" by Susanta Nanda .
7. Why has Hybrid Cloud has more challenges than Private Cloud? How do you make you Private Cloud as Hybrid Cloud?

SECTION "C"

[2 Q × 8 =16 marks]

Attempt *ANY TWO* questions.

8. Why are Parallel Processing and Distributed System needed in Cloud Computing ? Explain hardware architecture for parallel processing in details.
9. How can you address the problem of fabrication in cloud security? Explain with block diagram and justify your statements.
10. Explain the cloud security taxonomy with block diagram.

