Examination Paper: CLOUD COMPUTING IN NETWORKING

Level: L5 NIT

Duration: 3 Hours

Instructions to Candidates:

1. Read and understand all instructions before answering.
2. For multiple-choice questions, choose only one correct answer and clearly circle the letter or number. [5]
3. Erasing or altering answers is strictly prohibited and will lead to zero mark for the affected question. [6]
4. All answers for open-ended questions must be written in the spaces provided herein. [7]
5. Use only blue or black ink pens (no pencils or colored pens).

Attempt All Questions

Questions:

1. What does the acronym "SaaS" stand for in cloud computing? (1 Mark)

a) Software as a Service

b) Storage as a Service

c) Security as a Service

d) Service as a Software

2. Which of the following is an example of a cloud computing platform? (1 Mark)

A. Microsoft Word

B. Amazon Web Services (AWS)

C. Adobe Photoshop.

D. MySQL

3. Which cloud deployment model is used when cloud resources are shared by multiple organizations but are partitioned for security and privacy? (1 Mark)

a) Public Cloud

b) Private Cloud

c) Hybrid Cloud

d) Community Cloud

4. Answer by True (T) or False (F):

Cloud computing allows users to access their data from any device connected to the internet. (1 Mark)

5. Answer by True (T) or False (F):

In a public cloud, cloud resources are owned and operated by the cloud consumer.

6. Answer by True (T) or False (F):

Cloud computing services are generally offered on a pay-per-use basis. (1 Mark)

7. Match the following cloud service models in column A with their descriptions in column B: (2 Marks)

Column A	**Column B**
1. IaaS	b) Provides infrastructure such as virtual machines, storage, and networks
2. PaaS	a) Provides a platform to build applications
3. SaaS	c) Provides software applications over the internet
4. Cloud Storage	d) Stores data in a remote cloud environment
	e) Provides a platform to build Hardware

8. Match the following cloud computing providers in column A with their services in column B: (2 Marks)

Column A	**Column B**
1. Amazon Web Services (AWS)	a) Azure Cloud
2. Microsoft Azure	b) EC2, S3, Lambda
3. Google Cloud Platform	c) GCE, GCS, App Engine
4. IBM Cloud	d) Watson, Cloud Foundry
	e) Remote server

9. Which of the following is a benefit of cloud computing in networking? (1 Mark)
a) It reduces the need for IT infrastructure
b) It requires high upfront capital investment
c) It limits the scalability of resources
d) It relies on a constant physical location

10. In cloud networking, which of the following best describes the concept of "scalability"? (1 Mark)
a) The ability to increase or decrease computing resources as needed

b) The ability to provide static, fixed storage
c) The ability to store data indefinitely
d) The ability to integrate hardware components

11. You need to implement a solution where users can access a software application over the internet without installing it locally. Which cloud model should you use? (1 Mark)
a) IaaS
b) PaaS
c) SaaS
d) Cloud Storage

12. You are planning to deploy a business application that requires significant computing power and storage. Which cloud service model would be most suitable for your infrastructure? (1 Mark)
a) SaaS
b) IaaS
c) PaaS
d) Cloud Storage

13. You want to store large amounts of data online that can be accessed by multiple users from different locations. Which cloud service model would best suit this need? (1 Mark)
a) IaaS
b) PaaS
c) SaaS
d) Cloud Storage

14. If you want to develop and run custom applications in the cloud without managing the underlying infrastructure, which cloud model should you choose? (1 Mark)
a) IaaS
b) PaaS
c) SaaS
d) Cloud Storage

15. Answer by True (T) or False (F): According to these statements related to role of firewall in the web server security? (1 Mark)
a) A firewall controls incoming and outgoing network traffic based on predefined security rules.
b) Preventing authorized access to the web server while allowing legitimate traffic.

16. List two software tools commonly used in Linux server management. (1 Mark)

17. You notice that your cloud computing application is experiencing latency issues. Which of the following is the most likely cause of this problem? (Select the best answer) (1 Mark)
a) Insufficient bandwidth between the cloud server and the client
b) Too much data stored in the cloud

c) Over-provisioning of cloud resources
d) Too many cloud applications running simultaneously

18. When setting up a hybrid cloud solution, which of the following factors is the most critical to analyze for successful implementation? (1 Mark)
a) Cloud storage capacity
b) Integration between private and public cloud environments
c) The physical location of servers
d) Use of high-end server hardware

19. A secondary school wants to modernize its IT infrastructure by implementing a virtualized server environment using VMware vSphere. The goal is to consolidate multiple physical servers into virtual machines (VMs), improve resource efficiency, and simplify management. As the school's IT administrator, you are responsible for installing and configuring VMware vSphere on a newly acquired server to host various educational applications, student databases, and network services. Break down the steps involved in installing the vSphere platform, and analyze the significance of each step in ensuring a stable virtualization environment. (10 Marks)

20. You're managing a Linux server for a small team of developers. Each developer needs access to a shared project directory, but only the lead developer should have write access, while others should only be able to read and execute files. Evaluate the possible permission strategies you could implement and justify your recommended approach. (10 Marks)

21. You are tasked with creating a multi-cloud networking architecture to increase redundancy for a critical application. How would you design this architecture to ensure continuous service availability? (10 Marks)