

CS435 Cloud Computing Mid Term Preparation

1. Online gaming is an example of ----- model.
SaaS (Software as a Service).
2. -----is a fake message or repeated communication request (not directly related to cloud computing, but relevant to online services).
Spam
3. -----is not a feature of network design.
Security
4. -----is a popular Virtualization technology.
VMware
5. Some called ----- a node provides.
Gate Way
6. Sending and receiving traditionally required a-----.
physical connection
7. The -----is responsible for host-to-host communication.
Network layer
8. In IPV4 addresses, -----are used as Multicasting.

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Class D

9. Enhanced Data Rates for GSM Evolution (EDGE) is a ----- cellular technology.

2G

10. In ----- technology, a single host can be shared among multiple instances of operating systems.

Virtualization

11. A virtual cluster consists of several virtual machine hosts on a ----- cluster.

Physical

12. ----- is the ability of a computer system to recover from a failure.

Resilience

13. SaaS cloud service providers ----- interface.

User

14. IaaS consumers have the duty of installing -----.

Operating System

15. The consumers of cloud computing are under a legal cover of -----.

SLAs (Service Level Agreements)

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16.-----is a markup language that defines the API of a web service.

WSDL (Web Services Description Language)

17.A -----is the smallest unit of data that is individual.

Block

18. Rabid Elasticity is an example of

Ans: Cloud computing

19. ----- emerged that enabled organizations to “least” the computing capacity and processing power from cloud providers.

Ans: Cloud computing

20. ----- Stores domain names and the corresponding IP address.

Ans: DNS (domain Name server)

21. A ----- is a node that provides access to another network.

22. Sending and/or receiving fax traditionally required the fax machine and telephone connection.

Ans: Cloud based Phone & Fax Systems

23. First byte in Class C start and end from

ANS: 192 to 223

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Questions:

Q1: Essential Characteristics according to NIST definition:

- i. Resource pooling
- ii. Rapid elasticity
- iii. On-demand self-service
- iv. Broad network access
- v. Measured service

Q2: Important Benefits of Cluster Computing:

- i. Scalability
- ii. High availability and fault tolerance
- iii. Use of commodity computers (Widely available/affordable)

Q3: Service Models according to NIST definition:

- i. Infrastructure as a Service (IaaS)
- ii. Platform as a Service (PaaS)
- iii. Software as a Service (SaaS)

Q4: Cloud Deployment Models according to NIST definition:

- i. Private cloud
- ii. Community cloud
- iii. Public cloud
- iv. Hybrid cloud

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Q5: Servers are available in a variety of sizes and types:

- i. Web server
- ii. Domain Name Server (DNS)
- iii. Database server

Q6: Two common types of switched networks are:

- i. Packet-Switched Network
- ii. Circuit-Switched Network

Question7: IPV4 address of rang in decimal

Classification of IPv4 addresses:

	Bits For Network ID	Total Networks	Network ID Starts With	First Byte
Class A	8	2^7	'0' binary	0 to 127
Class B	16	2^{14}	'10' binary	128 to 191
Class C	24	2^{21}	'110' binary	192 to 223
Class D	Used for multicasting and No prefix or Network ID			224 to 239
Class E	Reserved for future use			240 to 255

Q8: There are three categories of IPv6 addresses:

Unicast address

- A unique address that identifies only one device or network. It's like a personal phone number that only rings on your phone.

Multicast address

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- A special address that sends data to multiple devices or networks at the same time. It's like a group phone number that rings on multiple phones at once.

Anycast address

- A single address that can be used by multiple devices or networks, but data is only sent to the closest one. It's like a shared phone number that automatically connects you to the nearest available phone.

Q09: Virtualization implementation levels:

- i. Instruction Set Architecture (ISA) level
- ii. Hardware Abstraction level
- iii. Operating System Level
- iv. Library support level
- v. Application level

Q10: Reasons of virtualization:

- i. Sharing of resources
- ii. Isolation of users of shared resource
- iii. Dynamic provisioning of virtual resources is easier than physical resources
- iv. Aggregation of smaller resources into a single big virtual resource
- v. Easier management of virtual resources.

Q11: A VM can be in any of the following states:

- i. Powered-off

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- ii. Suspended
- iii. Paused
- iv. Powered-on

Q12: The following options are available for VM migration:

- i. Cold migration
- ii. Warm migration
- iii. Live migration

Q13: A VM is made of two basic components:

VM state (The processor and RAM contents)

Virtual hard disk (Residing on network storage or on host's hard disk)

Q14: Types of VPN:

- i. Site-to-site VPN
- ii. Remote-access VPN

Q15: Major goals of a Cloud platform can be:

Virtualization

Scalability

Efficiency

Reliability

Q16: Saas of example:

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- Salesforce.com
- Taleo SaaS
- ADP SaaS

Q17: Paas of example:

- Google App Engine (GAE)
- Force.com as a PaaS
- LongJump as a PaaS

Q18: Explain work Open-ID:

How does it work:

- A user creates an OpenID login through a suitable provider.
- The user visits a website which is compatible with OpenID.
- The (visited) site prompts the user to sign-in with the OpenID credentials.
- The user is redirected to the OpenID provider's website.
- The user opts to share the credentials/token with the (visited) website.
- The user provides login and password at the OpenID provider's website.
- If the user is verified by the OpenID provider confirms the (visited) website.
- The user is redirected to the (visited) website which accepts the user as authenticated

Q20: Explain working Malicious intermediate device

The messages are illegally intercepted and then the contents are updated. The updated message is then relayed towards the cloud. The message may be updated with malicious contents which reach the VM hosting the cloud service undetected.

Q21: Three tiers of worldwide connective:

ANS: There are three tiers of worldwide connectivity:

- Tier 1 consists of large-scale international connectivity providers.
- Tier 2 consists of large regional ISPs connected to tier 1.
- Tier 3 consists of local ISP providers connected to tier 2.

Q22: Which template mean:

A template is a master copy of virtual server. It contains the configuration of installed software and any configured virtual devices and disk contents.

Q23:

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Column 1	Column 2
Dataset	Database
Fileset	folderset
Block	Small unit
Object	Meta data associated data

Q24: Characteristics of public cloud according to NST:

- **The** consumer generally not aware of the location of IT resources.
- The consumer worked may be a Co-resident of the workload.
- The consumer has limits visi-ability of the Software and Procedure of the provider.

Q25: Question: Risk Management Steps / state:

- Identify the vulnerability of the cloud environment.
- Create the Security Policy
- Review the risk occurred during a review period.