1.

\_\_\_\_\_\_\_\_\_\_\_\_\_does not need to modify the host OS. It relies on binary translation

Partial virtualization

**Full virtualization**

Paravirtualization

Binary virtualization

2. VMware puts the VMM at \_\_\_\_\_\_and the guest OS at \_\_\_\_\_\_.

**Ring 0, Ring 1**

Ring 1, Ring 0

Ring 1, Ring 2

Ring 1, Ring 3

3. Para-Virtualization with Compiler Support \_\_\_\_\_\_\_\_is modified to replace the privileged and sensitive instructions with hypercalls to the hypervisor or VMM.

Host OS kernel

VM

**Guest OS kernel**

Host OS

4. VMware implements \_\_\_\_\_\_\_\_\_\_\_\_either in the desktop environment, by means of Type II hypervisors, or in the server environment, by means of Type I hypervisors

Para-virtualization

Partial virtualization

Application virtualization

**full virtualization**

5. In which of the following the VM is installed as a Type 1 Hypervisor directly onto the hardware

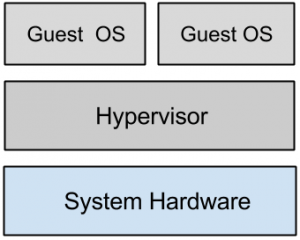
**full virtualization**

Partial virtualization

Para-virtualization

Desktop virtualization

6. Which type of Hypervisor is shown in the following figure?



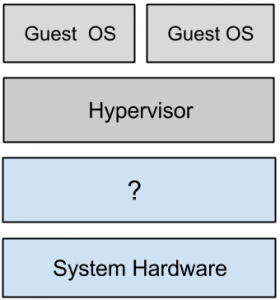
**a) Type 1**

b) Type 2

c) Type 3

d) Type 4

7. Which of the following should be placed in the second lowermost layer for the following figure?



**a) Host Operating System**

b) Software

c) VM

d)Hypervisor

8. Which of the following allows a virtual machine to run on two or more physical processors at the same time?

**a) Virtual SMP**

b) Distributed Resource Scheduler

c) vNetwork Distributed Switch

d) Storage VMotion

9. In\_\_\_\_\_\_\_\_\_\_, every request by a subject to access an object in a computer system must undergo a valid and effective authorization procedure.

Defense in depth

Least privilege

**Complete mediation**

Open design

10. Which of the following is not an IaaS related security issue?

Multitenancy

Identity management and access control

Hypervisor security

**Resource locality**

11. Stream Ciphers encrypt pseudorandom sequences with bits of plaintext in order to generate ciphertext, usually with\_\_\_\_\_ operation.

OR

AND

**XOR**

NOR

12. Which of the following statements is not correct related to Cipher Block Chaining (CBC)?

**CBC is a mode of operation for stream ciphers.**

Initialization vector (IV) is used in CBC in the initial phase.

It has better resistive nature towards cryptanalysis than ECB

13. Which of the following modes of operations can be followed for both stream ciphers as well as block ciphers?

CBC (Cipher Block Chaining)

ECB (Electronic Code Book)

**CFB (Ciphertext Feedback)**

Counter (CTR) Mode

14. Consider the following steps,

Substitution bytes

Shift Rows

Mix columns

Add round key

The above steps are performed in each round of which of the following ciphers?

Rail fence cipher

Data Encryption Standard (DES)

**Advanced Encryption Standard (AES)**

RSA

15. What does the output of a cryptographic hash function mean?

1. A variable set of bits

**2. A fixed set of bits, derived from one-way mathematical operations**

3/ An output which may be easily discovered by an adversary

4. Outputs of such functions are of no importance

16. Which of the following is the strongest encryption technique?

1.DES ( Data Encryption Standard)

2.Double DES

3.Triple DES

**4.AES (Advanced Encryption Standard)**

17. Which of the following is false for ECB mode of operation?

i) The Plain text is broken into blocks of size 128 bytes

ii) Blocks can be swapped, repeated, replaced without recipient noticing

iii) Good for short data

iv) Encryption of each block is done separately using a randomly generated key for each block

Only i

ii) and iii)

**i) and iv)**

i) ii) and iv)

18. Which of the following statements are true?

i) In the CBC mode, the plaintext block is XORed with previous ciphertext block before encryption

ii) The CTR mode does not require an Initialization Vector

iii) The last block in the CBC mode uses an Initialization Vector

iv) In CBC mode repetitions in plaintext do not show up in ciphertext

|  |  |
| --- | --- |
| iii |  |
| b. | ii) and iv) |
| c. | All the Statements are true |
| d. | **i) ii) and iv)** |

19. Which of the following can be classified under advantages and disadvantages of OFB mode?

i) Transmission errors

ii) A bit error in a ciphertext segment

iii) Cannot recover from lost ciphertext segments

iv) Ciphertext or segment loss

1. Advantages: None; Disadvantages: All
2. Advantages: All; Disadvantages: None
3. Advantages: i); Disadvantages: ii) iii) iv)
4. **Advantages: i); ii) Disadvantages: iii) iv)**

20. Which of the following step is NOT involved in Planning Phase

1.Cloud Computing Value Proposition

2.Cloud Computing Strategy Planning

**Maintenance and technical service**

4.Selecting Cloud Computing Provider

21. 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. Raises security concerns

D. Makes data recovery harder

23. This is a software distribution model in which applications are hosted by a vendor

or service provider and made available to customers over a network, typically the

Internet.

A. Platform as a Service (PaaS)

B. Infrastructure as a Service (IaaS)

**C. Software as a Service (SaaS).**

D. DbaS

24. Which of the following is not PaaS in a cloud environment?

Database servers

OS and applications softwares

**Virtual Machines**

Web server

25. Services to support database management system in any cloud based system should be part of \_\_\_\_\_\_

SaaS

IaaS

**PaaS**

EaaS

26. IaaS provides\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**VM, Virtual storage, virtual infrastructure**

VM, OS, Applications

Operating environment with applications

Physical machines with network

27. Which one of the following is a disadvantage of CC?

QoS cannot be guaranteed

**Cloud applications suffer from inherent latency**

CC applications are not reliable

Utilization is poor

28. Which one of the following business types is least suitable for deploying on cloud?

Web content delivery services

CRM applications

Data analytics and computation

**Billing application**

29. Which of the following is not a possible parameter of SLA in Cloud?

Availability of service

Response time or latency

**Electricity cost**

Warranty of service

30. A low level program that provides system resources to VMs is called\_\_\_\_\_\_\_\_\_\_\_

Guest OS

**Hypervisor**

Host OS

VM Box

31. \_\_\_\_computing refers to applications and services that run on a distributed network using virtualized resources.

Distributed

Parallel

**Cloud**

Grid

32. Which of the following statements is wrong?

The vendor is responsible for all the operational aspects of the service

The customer is responsible only for his interaction with the platform.

Google’s App Engine platform is PaaS offering.

**SaaS requires specific applications to be accessed globally over the internet.**

33. In which one of the following, a strategy record or Document is created respectively to the events, conditions a user may face while applying cloud computing mode.

Cloud Computing Value Proposition

**Cloud Computing Strategy Planning**

Planning Phase

Business Architecture Development

34. What facet of cloud computing helps to guard against downtime and determines costs?

**Service-level agreements**

Application programming interfaces

Virtual private networks

Bandwidth fees

35. \_\_\_\_\_\_\_ as a Service is a cloud computing infrastructure that creates a development environment upon which applications may be build

Infrastructure

Service

**Platform**

Environment

36. SaaS supports multiple users and provides a shared data model through \_\_\_\_\_\_\_\_model.

single-tenancy

**multi-tenancy**

multiple-instance

shared tenancy

37.Which of the following virtualization has the main benefits like user mobility, portability, and easy management of software installation, updates, and patches.

(a) Application virtualization

(b) Network virtualization

**(c) Desktop virtualization**

(d) Storage virtualization

38. \_\_\_\_\_\_\_\_\_\_\_\_refers to the ability to run a program, most likely an operating system, directly on top of a virtual machine and without any modification, as though it were run on the raw hardware

a. Para virtualization

**b. Full virtualization**

c. Partial Virtualization

d. hardware assisted virtualization

39. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_virtualization is also called system virtualization

Desktop

Hardware-level

**Operating system**

Application

40. In \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_phase of cloud service lifecycle, all management knowledge required for a certain type of cloud service is captured in a service template.

a. Production

b. Subscription and instantiation

c. offering

**d. definition**

41. Which one of the following is an example of application level virtualization ?

a. Xen

b. VMware

**c. Wine**

d. Microsoft Hyper-V

42. Which cloud should be deployed when the company is short on

budget but business autonomy is the most important?

Hybrid Cloud

**Public Cloud**

Community Cloud

Private Cloud

43. Choose the correct requirement for building the cloud infrastructure.

Familiarity with Databases

Understanding of Cloud infrastructure.

**Service and resource management.**

Knowledge of AgileDevelopment.

44. Which is the third step in the lifecycle of a Cloud computing solution?

Define the Hardware

**Define the storage**

Define the purpose

Define and Security

45. Centralized cloud monitoring is most useful when \_\_\_\_\_\_\_\_\_\_

an organization uses a single cloud application

an organization uses a multiple cloud application

the application is totally hosted on the cloud

**applications must span hybrid architectures**

46. Which of the following attacks is a potential security threat for altering public keys?

Birthday Attacks

Boomerang Attacks

Cube Attacks

**Man-in-the-middle attacks**

47. Which form of virtualization serves the same purpose of storage virtualization: providing a better quality of service rather than emulating a different environment?

Storage Virtualization

Desktop virtualization

**Application Server Virtualization**

Network Virtualization

48. Which of the following is Monolithic Hypervisor

Integrity Multivisor

QNX

**ESXi platform by VMware**

Microsoft Hyper-V

49. Which of the following is NOT a part of the planning phase?

Business Architecture Development

~~IT Architecture Development~~

**Maintenance and Technical Service - (Sir, WA)**

Transformation Plan Development

50. Which of the following is NOT a benefit of a PaaS for aligning IT and business?

DevOps

Streamlines development

**Reduces operational complexity**

Orchestration of applications

51. Which of the following outlines how a business will continue operating during an unplanned disruption in service?

**Business Continuity Plan**

Business Operation Plan

Business Execution Plan

Business Recovery Plan

52. Which of the following types of fault tolerance techniques is used only when one copy of the task or computation is made to run at a time? This technique performs self-repair.

**Dynamic recovery**

Fault Masking

Software fault tolerance

Proactive fault tolerance

53. What is the purpose of Amazon Elastic Compute Cloud?

Provides customers with an isolated section of the AWS cloud where they can launch AWS resources in virtual network that they define

**Provides resizable computing capacity in the cloud**

Provides a simple web services interface that customers can use to store and retrieve any amount of data from anywhere on the Web

Provides a web service allowing customers to easily set up, operate and scale relational databases in the cloud

54. How one-to-many and many-to-many relationships can be accomplished by Google Query Language of Google App Engine

Join

GoogleRelation

**ReferenceProperty**

AppScale

55. “It is a technique that designs the system for periodic reboots. It restarts the system with clean state and helps to fresh start”

Which of the following fault tolerance techniques is this?

Self-Healing

**Software Rejuvenation**

Preemptive Migration

Proactive fault tolerance

56. In Windows Azure, which service is used to manage resources?

Log Analytics

Azure Portal

Application Insights

**Azure Resource Manager**

57. Which of the following has stopped using Amazon S3 services since 2016 and developed its own cloud server?

Pinterest

Reddit

**Dropbox**

Bitcasa

58. Which of these is not one of the essential characteristics of cloud computing according to NIST?

Resource pooling

Rapid elasticity

**Multi-tenancy**

Broad network access

59. The Virtualization layer controls the environment in which the guest programs are executed. Which type of virtualization characteristic is mentioned here?

**Emulation**

Aggregation

Isolation

Sharing

60. Which of the following approaches eliminates the additional overhead of binary translation and improves the overall system efficiency and performance?

**Hardware-Assisted Virtualization**

Paravirtualization

Full virtualization **//check?//**

Operating-System-level virtualization

61. Which of the following terms refers to a deployment model in which an application runs in an enterprise’s private cloud or data center but uses public cloud resources to support spikes in user demand?

Cloud spiking

**Cloud bursting // check this answer, confused between spiking and bursting //**

Cloud bubble

Cloud blasting

62. Development, Staging and production should be as similar as possible. Is the definition of which 12 factor app?

Concurrency

Disposability

**Dev/Prod Parity**

Processes

63. How is distributed tracing used in microservices?

As a mechanism to change the behavior of a microservice at runtime

**As a mechanism to observe the behavior of distinct system calls between and within microservices**

As a mechanism to transfer log management between a given host on demand

As a mechanism to ensure that failed microservices are resurrected properly

64. What are the few issues with Monolithic Architecture?

Easily deployable

**Each update will require re deployment of the whole application**

Reliability

It can adopt new technologies easily

65. Application based Microservice architecture originated from which type of architecture?

Monolithic Architecture

Client - Server Architecture

**Service - Oriented Architecture**

Distributed Architecture

66. Which of the following is true regarding DevOps Architecture

**DevOps is an excellent approach for quick development and deployment of applications.**

Developing DevOps is very cheap

It's response to market changes is low

Transportation cost increases

67. What is not a DevOps Architecture feature?

Automation

**Privacy**

Integration

Configuration Management

68. Which of these libraries can perform server-to-server authentication?

**google-auth**

google-cloud-vision

google-cloud-monitoring

google-cloud-bigtable

69. Which of the following commands is used to create a new deployment in Kubernetes?

Kubernetes set deployment

Kubernetes get deployment

**Kubectl run**

Kubernetes set run

70. Which category of security tool does Wireshark belong to?

Encryption Tools

Web Vulnerability Scanning Tools

**Packet Sniffers and Password Auditing Tools**

Network Defense Wireless Tools

71. Which of the following is an emerging cloud trend that involves storing data and information in localized data centers closer to the devices that use them?

Grid Computing

**Edge computing**

Ubiquitous Computing

Hybrid Computing

72. Which of the following Spring Boot annotations auto-configures the bean that is present in the classpath and configures it to run the methods?

@AutoConfiguration

@Required

**@EnableAutoConfiguration**

@Configuration

73. Which of the following states the meaning of "bounded context" in microservices?

The cloud provider's region where the microservice operates

How a microservice uses memory

**The logical domain represented by the data consumed and emitted by a microservice according to the data's purpose, structure and meaning**

The common characteristics within a collection of entities in one or many business domains

74. Consider the statement- “Any application that follows this principle is completely self-contained and standalone. It exports HTTP as a service and doesn’t require any server like a tomcat to listen to requests.”

Which of the following factors is related to this statement?

**Port Binding**

Concurrency

Build, Release and Run

Config

75. What benefit will the industry get if they have Development and Operations as a shared tool?

This is a benefit of automating and enabling low-risk releases

This is a benefit that Development shares when doing pager rotation duties with Operations

**With a unified backlog everyone prioritizes improvement projects from a global perspective, selecting work that has the highest value to the organization or has the most impact on reducing the technical debt**

his is a benefit of embedding Operations engineers into our service teams

76. Which of the following commands is run on Google Cloud to display all data associated with a VM?

gcloud describe VM\_NAME

gcloud compute describe VM\_NAME

**gcloud compute instances describe VM\_NAME**

gcloud instances describe VM\_NAME

77. Which of the following commands is used to run images as containers?

**$ Sudo docker run container name**

$ Sudo docker run -i -t alpine /bin/bash

$ docker PS

$ Sudo docker run -i /bin/bash

78. Which of the following industries have already adopted multi cloud interconnect relationships since 2019 to take advantage of both networking and ML capabilities respectively?

Oracle-IBM

**Oracle-Microsoft**

Microsoft-TCS

Microsoft-Amazon

----

79. Which of the following essential characteristics of Cloud Computing states that "Resource usage can be monitored, controlled, and reported providing transparency for both the provider and consumer of the utilized service"

On-demand self-service

Elastic resource pooling

**Measured service**

Rapid elasticity

80. Which of the following describe the ways with which the cloud services can be deployed or made available to its customers, depending on the organizational structure and the provisioning location

Virtualization

Development models

Cloud Service models

**Deployment models**

81. Which of the following is the primary limitation of Community Cloud?

Limited control on the infrastructure configurations

Scaling up on hardware

**Autonomy of an organization is lost.**

Operational efficiency is difficult to achieve

82. Which of the following services is provided by IaaS?

Programming languages

Deployment tools

**Compute**

Business Services

83. Which of the following services is not provided by SaaS?

Social networks

Document management

Mail services

**Application frameworks**

84. Which one of the following should have all nodes run on the same Operating system?

Cloud Computing

**Cluster Computing**

Grid Computing

Mobile Computing

85. Cloud applications improve \_\_\_\_\_\_\_\_\_\_by allowing groups of people to quickly and easily share information in the cloud via shared storage.

mobility

**collaboration**

maintenance

dependency

86. Which of the following OpenStack services enables users to create and attach interfaces to networks?

Ceilometer

Cinder

Keystone

**Neutron**

87. What is the task of Swift in OpenStack Services?

Allows automated infrastructure deployment

Manages images in different formats

Provides authorization and authentication for users

**Storage platform integrated directly into applications**

88. Which of the following Openstack components is used for managing large networks of the virtual machine?

Options:

Image Service

Openstack tenant

OpenStack Object Storage

**OpenStack Compute**

89. Which of the following is the correct differentiating point between OpenStack and CloudStack?

In OpenStack, storage is categorized into primary and secondary storage. While in CloudStack, it is categorized into Block Storage and Object Storage.

CloudStack user interface is based on JQuery and JSP while OpenStack UI is based on Django

**In CloudStack, storage is categorized into primary and secondary storage. While in OpenStack, it is categorized into Block Storage and Object Storage.**

Platform supported by CloudStack is Java while OpenStack is Cross platform supported.

90. Which of the following is a system administration practice that allows decoupling the physical organization of the hardware from its logical representation?

Application Virtualization

Network Virtualization

**Storage virtualization**

Operating System Virtualization

91. Which of the following is the correct flow of VM provisioning process steps?

Start the server->Load OS and Appliances->Customize and Configure->Install Patches

Load OS and Appliances->Install Patches->Customize and Configure->Start the server

**Load OS and Appliances->Customize and Configure->Install Patches->Start the server**

Load OS and Appliances->Customize and Configure->Start the server->Install Patches

92. Which type of hypervisor runs on top of an operating system to provide resources to the virtual machines?

Options:

Type 0

Type 1

**Type 2**

Type 3

93. Which of the following virtualization has performance issues due to binary translation?

para virtualization

Hardware-assisted full virtualization

IoT assisted full virtualization

**Software assisted full virtualization**

94. Which of the following is a platform virtualization approach that enables efficient full virtualization using help from hardware capabilities, primarily from the host processors?

IoT assisted full virtualization

Software assisted full virtualization

**Hardware-assisted full virtualization**

OS full virtualization

95. Which of the following virtualization is an operating system running on a Type 1 VM?

desktop virtualization

partial virtualization

**full virtualization**

para virtualization

96. Which of the following virtualization techniques provides an abstract execution environment in terms of computer hardware on top of which a guest operating system can be run?

Desktop Virtualization

OS virtualization

**Hardware-level virtualization**

application virtualization

97. Which of the following is not a part of the Virtual Machine life cycle?

Release VMs

IT Service Request

**Check Inventory**

VM Provision

98. Which of the following is the benefit of Single-tenancy?

Options:

Maintenance

**Dependability**

Setup/Management

Cost