



Cloud Computing

Assignment-Week 12

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

According to the given definition, which of the following statement(s) is (are) true about dew computing?

- a. Dew computing is a cloud computing paradigm where all computing is done on the cloud without any reliance on on-premises computers.
- b. Dew computing is a paradigm where on-premises computers provide functionality that is dependent on cloud services.
- c. Dew computing is a paradigm where on-premises computers and cloud services are completely isolated from each other and do not collaborate in any way.
- d. Dew computing is a paradigm where on-premises computers provide functionality that is independent of cloud services and is also collaborative with cloud services.

Answer: d

Detailed Solution: According to the definition given, dew computing is a paradigm where on-premises computers provide functionality that is independent of cloud services and is also collaborative with cloud services.

QUESTION 2:

What are the different aspects of CPS?

- a. Cyber, physical, and communication only
- b. Cyber, dynamics, and safety only
- c. Cyber, physical, computation, dynamics, communication, security, and safety
- d. Cyber, physical, and computation only

Answer: c

Detailed Solution: Refer slide 6 of Module 12: Cloud Computing Paradigms; Lecture 57.

QUESTION 3:

What is the benefit of 5G's ability to scale down in data rates, power, and mobility for IoT devices?



- a. It allows for faster data rates and lower latency
- b. It provides extremely lean and low-cost connectivity solutions
- c. It enables immersive experiences like VR and AR
- d. It provides ultra-reliable, low-latency links for mission-critical communications.

Answer: c

Detailed Solution: 5G is meant to seamlessly connect a massive number of embedded sensors in virtually everything through the ability to scale down in data rates, power, and mobility—providing extremely lean and low-cost connectivity solutions

QUESTION 4:

Fog-Edge computing leads to increased network congestion

- a. True
- b. False

Correct Answer: b

Detailed Solution: Fog-Edge computing leads to less network congestion

QUESTION 5:

What is(are) the key feature(s) of Mobile Cloud computing for 5G networks?

- a. Sharing resources for mobile applications
- b. Improved reliability due to data storage in the cloud
- c. Increased resource consumption by mobile applications
- d. None of these

Correct Answer: a and b

Detailed Solution: Key features of MCC for 5G networks include sharing resources for mobile applications and improved reliability as data is backed up and stored in the cloud.

QUESTION 6:

Mobility Analytics utilizes the cloud platform for computation and storage.

- A) True
- B) False

Correct Answer: A



Detailed Solution: Mobility Analytics utilizes a Cloud platform for computation and storage.

QUESTION 7:

In which computing environment is latency fixed due to the location of application modules at the Area Gateway?

- a. Fog computing
- b. Cloud computing
- c. Serverless Computing
- d. None of the above

Correct Answer: a

Detailed Solution: In fog computing environment is latency fixed due to the location of application modules at the Area Gateway

QUESTION 8:

Resource-constrained low-latency devices drive the need of

- a. Heterogeneous and distributed computing architectures
- b. Homogeneous and distributed computing architectures
- c. Heterogeneous and parallel computing architectures
- d. Homogeneous and parallel computing architectures

Correct Option: a

Detailed Solution: On-premises and edge data centers will continue to close the gap between resource-constrained low-latency devices and distant cloud data centers, leading to driving the need for heterogeneous and distributed computing architectures.

QUESTION 9:

Customized wearable devices for collecting health parameters are the best examples of

- a. IoHT
- b. Fog device
- c. Fog-Cloud interfaced.
- d. Cloud-Fog-Edge-IoHT

Correct Answer: d

Detailed Solution: Customized wearable devices for collecting health parameters are the best examples of Cloud-Fog-Edge-IoHT.



QUESTION 10:

The cyber-physical system involves transdisciplinary approaches, merging the theory of cybernetics, mechatronics, design, and process science.

- a. True
- b. False

Correct Answer: a

Detailed Solution: The cyber-physical system involves transdisciplinary approaches, merging the theory of cybernetics, mechatronics, design, and process science.

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Cloud Computing

Assignment-Week 11

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

Which of the following best describes the key features of dew computing?

- a. Independence and collaboration
- b. Independence and centralization
- c. Collaboration and decentralization
- d. Connectivity and scalability

Correct Answer: a

Detailed Solution: The correct answer is a) Independence and collaboration because these are the core principles of dew computing, allowing local devices to operate autonomously while still connecting to the cloud for data synchronization when needed.

QUESTION 2:

Which of the following best describes serverless computing?

- a. Developers manage scalability and orchestration of containers.
- b. Developers run their logic as functions, and the cloud provider manages scalability
- c. Developers handle all containerization and runtime environments.
- d. Developers run their applications directly on dedicated servers.

Correct Answer: b

Detailed Solution: The correct answer is b) Developers run their logic as functions, and the cloud provider manages scalability because serverless computing allows developers to submit their code as functions without worrying about infrastructure. The cloud provider automatically handles the scaling and orchestration, enabling efficient parallel execution of tasks without the need for manual container management.

QUESTION 3:

Which of the following best describes Function-as-a-Service (FaaS)?



- a) Functions run continuously and scale vertically.
- b) Functions are triggered by events and executed in isolated environments.
- c) Functions are always active and manage their own scaling.
- d) Functions are large, continuously running parts of an application.

Correct Answer: (b)

Detailed Solution: The correct answer is B) Functions are triggered by events and executed in isolated environments because Function-as-a-Service (FaaS) is an event-driven model where functions are only activated in response to specific triggers, such as client requests or external events. These functions run in isolated environments provided by the FaaS platform, which also handles the horizontal scaling based on the volume of incoming events. Unlike traditional applications, FaaS functions are not constantly active, making them efficient for handling specific tasks within a broader application.

QUESTION 4:

How does Serverless Computing differ from traditional Cloud Computing?

- a) It focuses on system administrators and exposes server management.
- b) It targets programmers by abstracting server management and simplifying development.
- c) It requires developers to handle all operational responsibilities.
- d) It makes cloud software development more complicated.

Correct Answer: b

Detailed Solution: The correct answer is B) It targets programmers by abstracting server management and simplifying development because serverless computing removes the need for developers to manage servers, allowing them to focus on writing code. This shift makes cloud development easier and more accessible for programmers, while the cloud provider handles the operational responsibilities.

QUESTION 5:

What is a key benefit of using AWS Lambda for running code?

- a) You need to manage AWS resources and scaling.
- b) You have to focus on operating system management and provisioning.
- c) You upload code and AWS Lambda handles execution and scaling based on events.
- d) You must manually handle event sources and log streams.

Correct Answer: C

Detailed Solution: AWS Lambda allows you to focus on writing code while it manages execution, scaling, and resource provisioning based on event triggers, simplifying cloud computing tasks.



QUESTION 6:

What does Google Cloud Functions primarily handle in terms of execution environment?

- a) Server-based environments with manual provisioning
- b) Fully managed environments with automatic scaling
- c) Local environments requiring extensive server management
- d) Dedicated virtual machines for each function

Correct Answer: b

Detailed Solution: Google Cloud Functions operates in a fully managed environment, meaning developers do not need to provision or manage servers, and the platform automatically handles scaling.

QUESTION 7:

What is the primary focus of Azure Functions for developers?

- a. Managing and maintaining servers
- b. Writing code and configuring functions
- c. Handling infrastructure scaling manually
- d. Deploying compiled languages only

Correct Answer: b

Detailed Solution: Azure Functions allows developers to focus on writing code and configuring functions while it manages server maintenance and scaling..

QUESTION 8:

What is one major challenge of using renewable energy sources in cloud datacenters?

- a) High capital costs and unpredictability
- b) Increased server maintenance requirements
- c) Higher energy consumption from non-renewable sources
- d) Decreased system reliability

Correct Answer: (a)

Detailed Solution: Renewable energy sources face challenges such as high initial costs and unpredictability in supply, which can impact their implementation in cloud datacenters.

QUESTION 9:

What is the primary focus of the power manager component in a sustainable cloud computing datacenter?



- a. Controlling the temperature of the datacenter
- b. Managing the power supply from renewable and grid sources
- c. Handling virtual machine migrations
- d. Scheduling workloads to balance energy use

Correct Answer: b

Detailed Solution: The power manager in a sustainable cloud computing datacenter is primarily responsible for managing the power supply, including balancing energy sources from renewables and grid electricity.

QUESTION 10:

Which component of sustainable cloud computing aims to balance the temperature in cloud datacenters to enhance energy efficiency?

- a. Application Design
- b. Capacity Planning
- c. Cooling Management
- d. Renewable Energy

Correct Answer: c

Detailed Solution: Cooling Management focuses on maintaining the temperature within cloud datacenters to ensure energy efficiency, as excessive heat can increase energy consumption and affect performance.



Cloud Computing

Assignment- Week 10

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

Why is VM migration important in cloud computing environments?

- a) To centralize all virtual machines on a single server.
- b) To efficiently distribute VM load across servers, allowing for system maintenance and operational efficiency.
- c) To permanently shut down under-utilized servers.
- d) To increase the number of servers in a data center.

Correct Answer: (b)

Detailed Solution: VM migration is crucial in cloud computing for balancing the workload across servers, enabling maintenance without downtime, and managing operational parameters like power consumption. It allows for dynamic allocation of resources to ensure efficient operation and maintain service quality.

QUESTION 2:

What is the difference between cold (non-live) and hot (live) VM migration?

- a) Cold migration turns off the VM during migration, while hot migration keeps the VM running.
- b) Cold migration keeps the VM running during migration, while hot migration turns off the VM.
- c) Both cold and hot migration suspend the VM during the process.
- d) Cold migration requires more resources than hot migration.

Correct Answer: (a)

Detailed Solution: Cold (non-live) migration involves turning off or suspending the VM during the migration process, whereas hot (live) migration allows the VM to continue running and providing services while being migrated.

QUESTION 3:

Which of the following approaches are commonly used in live VM migration?

- a) Cold-copy and Hot-copy.
- b) Pre-copy and Post-copy.
- c) Suspend-copy and Resume-copy.



- d) Start-copy and End-copy.

Correct Answer: (b)

Detailed Solution: In live VM migration, the two main approaches are pre-copy, where the VM's memory pages are copied to the destination before the VM is transferred, and post-copy, where the VM is first transferred to the destination, and then its memory pages are copied over as needed. These methods help minimize downtime during the migration process.

QUESTION 4:

Which of the following is a primary concern during VM migration to ensure service continuity?

- a) Maximizing downtime and total migration time
- b) Minimizing both downtime and total migration time, and avoiding unnecessary disruption of active services
- c) Allowing resource contention with the migrating OS to speed up the process
- d) Ensuring that the migration process takes as long as possible to ensure stability

Correct Answer: (b)

Detailed Solution: During VM migration, it's crucial to minimize both the downtime (time services are unavailable) and the total migration time (time to complete the migration). Additionally, the process should avoid disrupting active services by managing resource contention effectively.

QUESTION 5:

Which phase of live VM migration involves suspending the execution of the VM at the source and copying the remaining dirty pages and CPU state to the destination?

- a) Pre-Copy Phase
- b) Post-Copy Phase
- c) Stop-and-Copy Phase
- d) On-Demand Copy Phase

Correct Answer: (c)

Detailed Solution: In the Stop-and-Copy Phase of live VM migration, the VM's execution is suspended at the source, and the remaining dirty pages along with the CPU state are copied to the destination before resuming the VM.

QUESTION 6:

What is the primary advantage of the post-copy live memory migration strategy?

- a) It avoids copying any memory pages from the source to the destination.
- b) It ensures that memory pages are only copied on demand, potentially reducing unnecessary data transfer.
- c) It copies all memory pages before stopping the VM at the source.
- d) It immediately restarts the VM at the source after copying the CPU state.

Correct Answer: (b)

Detailed Solution: Post-copy live memory migration copies memory pages only when they are needed by the VM at the destination, reducing the amount of unnecessary data transfer compared to other strategies.

QUESTION 7:

Which of the following is NOT a requirement for live VM migration?

- a) Load balancing
- b) Fault tolerance
- c) Power management
- d) Data replication

Correct Answer: (d)

Detailed Solution: Live VM migration involves requirements such as load balancing, fault tolerance, power management, and resource sharing to ensure seamless operation and system maintenance. Data replication is not a specific requirement for live VM migration.

QUESTION 8:

In serial VM migration, what happens to the remaining VMs when the first VM enters the stop-and-copy phase?

- a) They continue to provide services
- b) They are suspended to prevent memory dirtying
- c) They start their pre-copy cycle
- d) They are migrated simultaneously

Correct Answer: (b)

Detailed Solution: In serial VM migration, when the first VM enters the stop-and-copy phase, the remaining VMs are suspended to prevent them from dirtying memory, ensuring a smooth migration process.

QUESTION 9:

What is a key advantage of using containers in cloud computing?

- a) Containers virtualize the hardware to run multiple operating systems
- b) Containers are heavyweight virtual machines with extensive resource requirements
- c) Containers package code and dependencies, allowing applications to run consistently across different environments
- d) Containers require specific hardware configurations to function properly



Correct Answer: (c)

Detailed Solution: Containers are lightweight virtualization techniques that package application code along with all its dependencies, enabling consistent performance across various computing environments.

QUESTION 10:

What is the main function of a Docker container image?

- a) To create a virtual machine with its own operating system
- b) To package an application along with its code, runtime, system tools, libraries, and settings
- c) To manage physical hardware resources for applications
- d) To execute applications directly on the host operating system without isolation

Correct Answer: (b)

Detailed Solution: A Docker container image is a lightweight, standalone package that includes everything needed to run an application, such as code, runtime, system tools, libraries, and settings, ensuring consistent operation across different environments.



Cloud Computing

Assignment- Week 9

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

Which of the following statements best describes fog computing?

- a) Fog computing refers to a model where data, processing, and applications are concentrated in the cloud rather than at the network edge.
- b) Fog computing is a term introduced by Cisco Systems to describe a model that centralizes data processing in the cloud to manage wireless data transfer to distributed IoT devices.
- c) Fog computing is a model where data, processing, and applications are concentrated in devices at the network edge rather than existing almost entirely in the cloud.
- d) The vision of fog computing is to enable applications on a few connected devices to run directly in the cloud without interaction at the network edge.

Correct Answer: (c)

Detailed Solution: Fog computing is characterized by its focus on edge processing rather than cloud-centralized processing. Statement C correctly captures this aspect, making it the best description of fog computing among the provided options.

QUESTION 2:

Which of the following challenges is most effectively addressed by using fog and edge computing instead of a "cloud-only" approach for IoT applications?

- a) Resource management issues related to workload balance and task scheduling in cloud-based environments.
- b) The inefficiency of processing time-sensitive applications directly in the cloud due to high latency and large data bandwidth requirements.
- c) The need for improved security and privacy features in cloud-based systems, which are not addressed by fog and edge computing.
- d) The difficulty in integrating multiple cloud services and platforms for comprehensive IoT data management.

Correct Answer: (b)

Detailed Solution: Fog and edge computing offer solutions to the inefficiencies of processing time-sensitive applications in a "cloud-only" scenario by reducing latency and managing data bandwidth more effectively. Statement B best captures the challenge that fog and edge computing address.



QUESTION 3:

Which of the following correctly describes a classification of resource management architectures in fog/edge computing?

Threads of a process share

- a) Data Flow
- b) Control.
- c) Tenancy.
- d) Infrastructure.

Correct Answer: (c)

Detailed Solution: Tenancy is correctly described as the support for hosting multiple applications or a single application on an edge node.

QUESTION 4:

Which of the following characteristics is NOT typically associated with fog computing infrastructure?

- a) Location awareness and low latency
- b) Better bandwidth utilization
- c) High computational power concentrated solely in the Cloud
- d) Support for mobility

Correct Answer: (c)

Detailed Solution: High computational power concentrated solely in the Cloud is not a characteristic of fog computing; instead, fog computing distributes computational resources across edge nodes.

QUESTION 5:

In the fog computing paradigm, which of the following accurately describes the relationship between local and global analyses?

- a) Local analyses are performed exclusively in the Cloud, while global analyses are done at the edge devices.
- b) Local and global analyses are performed only in the Cloud data centers.
- c) Local analyses are performed at the edge devices, and global analyses can be either performed at the edge or forwarded to the Cloud.
- d) Local analyses are conducted by IoT devices, and global analyses are not necessary in fog computing.

Correct Answer: (c)

Detailed Solution: Local analyses in fog computing are performed at the edge devices to ensure low latency and quick processing. Global analyses can be either performed at the edge or forwarded to the Cloud for further processing, depending on the system's requirements and resource availability. Local and global analyses are not solely performed in the Cloud; they are distributed based on the needs of the application and infrastructure.

QUESTION 6:

What is the primary goal of the application placement problem in the Cloud-Fog-Edge framework?

- a) To map all applications onto the Cloud servers to maximize computational power.
- b) To find available resources in the network that satisfy application requirements, respect constraints, and optimize the objective, such as minimizing energy consumption.
- c) To place all application components on edge devices to ensure low latency.
- d) To disregard resource capacities and focus solely on network constraints.

Correct Answer: (b)

Detailed Solution: In the Cloud-Fog-Edge framework, application placement involves mapping components onto infrastructure while considering resource (CPU, RAM), network (latency, bandwidth), and application constraints (locality, delay sensitivity). The goal is to meet these constraints and optimize objectives like energy consumption. Application constraints, such as locality requirements, ensure specific services run in designated locations, making them key factors in the placement process.

QUESTION 7:

Which of the following is an example of an application constraint in the application placement problem on the Cloud-Fog-Edge framework?

- a) Finite capabilities of CPU and RAM on infrastructure nodes.
- b) Network latency and bandwidth limitations.
- c) Locality requirements restricting certain services' executions to specific locations.
- d) Availability of storage resources in the Fog nodes.

Correct Answer: (c)

Detailed Solution: Locality requirements are application constraints that restrict services to specific locations, making them key in application placement. In contrast, Option A deals with resource constraints, Option B with network constraints, and Option D with resource availability, none of which are application-specific constraints.

QUESTION 8:

What is the primary purpose of offloading in the context of edge computing?

- a) To move all data processing from edge nodes to the cloud.
- b) To augment computing requirements by moving servers, applications, and associated data closer to the network edge.
- c) To reduce the number of user devices connected to the network.
- d) To centralize all computational resources in the cloud for better performance.

Correct Answer: (b)



Detailed Solution: This question highlights the key purpose of offloading, which involves moving servers, applications, and data closer to the network edge to enhance computing capabilities and bring services closer to the data source, improving efficiency and reducing latency.

QUESTION 9:

What is the primary goal of a cloud federation?

- a) To centralize all cloud services under a single provider.
- b) To deploy and manage multiple cloud services to meet business needs by collaborating among different Cloud Service Providers (CSPs).
- c) To limit the geographical reach of cloud services.
- d) To reduce the number of cloud service providers globally.

Correct Answer: (b)

Detailed Solution: Cloud federation's goal is to efficiently manage and deploy cloud services by collaborating among multiple CSPs. This enhances capacity utilization, interoperability, and service offerings, unlike centralizing services under one provider.

QUESTION 10:

Which of the following is a key benefit of forming a cloud federation?

- a) Centralized control of global cloud services.
- b) Increased resource utilization and load balancing across multiple Cloud Service Providers (CSPs).
- c) Reduced collaboration among Cloud Service Providers.
- d) Limiting the geographical footprint of Cloud Service Providers.

Correct Answer: (b)

Detailed Solution: A key benefit of cloud federation is maximizing resource utilization and achieving effective load balancing across multiple CSPs, improving efficiency and reliability through shared resources.



Cloud Computing

Assignment-Week 8

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

An IoT platform's basic building blocks is/ are (choose the correct option(s)).

- a. Gateway
- b. Images
- c. Network and Cloud
- d. Containers

Correct Answer: a, c

Detailed Solution: An IoT platform has three basic building blocks, Things, Gateway, and Network and Cloud. Lecture 39, 10:09 min.

QUESTION 2:

_____ is used to delete a local image.

- a. Docker rm
- b. Docker rmi
- c. Docker rvi
- d. Docker push

Correct Answer: b

Detailed Solution: Docker rmi is used to delete a local image. So, the correct option is (b).

QUESTION 3:

Docker Hub is a registry used to host various docker images.

- a) True
- b) False

Correct Answer: (a)

Detailed Solution: Docker Hub is a registry used to host various docker images.



QUESTION 4:

_____ enables different networks, spreads in a huge geographical area to connect together and be employed simultaneously by multiple users on demand.

- a) Serverless
- b) IoT Cloud
- c) Sensor Cloud
- d) Green Cloud

Correct Answer: c

Detailed Solution: Sensor Cloud enables different networks, spreads in a huge geographical area to connect together and be employed simultaneously by multiple users on demand. Lecture 38, 20:27

QUESTION 5:

Virtual machines get virtual access to host resources through a _____

- a) Containers
- b) Hypervisor
- c) Both a and b
- d) Images

Correct Answer: b

Detailed Solution: Virtual machines get virtual access to host resources through a hypervisor. So, the correct option is (b). Lecture 36, 24:10

QUESTION 6:

Vehicles providing their networking and data processing capabilities to other vehicles through the cloud comes under which service of IoT-based Vehicular Data Clouds.

- a) SaaS
- b) PaaS
- c) IaaS
- d) None of these

Correct Answer: c

Detailed Solution: Vehicles provide their networking and data processing capabilities to other vehicles through the cloud comes under the Networking and Data processing as a service (IaaS)

QUESTION 7:

Sensor data can be easily shared by different groups of users without any extra effort/ measure.

- a. True
- b. False



Correct Answer: b

Detailed Solution: One of the limitations of Sensor Networks is “Sensor data can not be easily shared by different groups of users.” Hence, the correct option is (b). Lecture 38, 9:32 min.

QUESTION 8:

Container is a compile time instance of an image.

- a) True
- b) False

Correct Answer: (b)

Detailed Solution: Container is a run time instance of an image.

QUESTION 9:

In the context of Green Cloud Computing, the Power Usage Effectiveness is defined as

- a. Power Delivered / Overall Power
- b. Overall Power / Power Delivered
- c. Overall Power * Power Delivered
- d. None of these

Correct Answer: b

Detailed Solution: In the context of Green Cloud Computing, the Power Usage Effectiveness is defined as Overall Power / Power Delivered. So, the correct option is (b). Lecture 37, 28:45 min.

QUESTION 10:

Statement 1: Sensor-Cloud proxy exposes sensor resources as cloud services.

Statement 2: Sensor network is still managed from the Sensor-Cloud Interface via Sensor Network Proxy

- a. Statement 1 is True and Statement 2 is False
- b. Statement 2 is True and Statement 1 is False
- c. Both statements are True
- d. Both statements are False

Correct Answer: c

Detailed Solution: Sensor cloud proxy exposes sensor resources as cloud services.

Sensor network is still managed from the Sensor-Cloud Interface via Sensor Network Proxy.
Lecture 38, 21:43 min.- 22:09 min.



Cloud Computing

Assignment-Week 7

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

The key features of mobile cloud computing (MCC) are

- a) Facilitates the quick development, delivery and management of mobile apps
- b) Uses more device resources because applications are cloud-supported
- c) Improves reliability with information backed up and stored in the cloud
- d) None of these

Correct Answer: a, c

Explanation: The key features of mobile cloud computing are: Facilitates the quick development, delivery and management of mobile apps. Improves reliability with information backed up and stored in the cloud.

QUESTION 2:

Dynamic runtime offloading involves the issues of

- a) Runtime application partitioning
- b) Migration of intensive components
- c) Continuous synchronization for the entire duration of runtime execution platform
- d) None of these

Correct Answer: a, b, c

Explanation: Dynamic runtime offloading involves the issues of:- runtime application partitioning, migration of intensive components, continuous synchronization for the entire duration of runtime execution platform.

QUESTION 3:

What is/are true about cloudlet?

- a) Increases the latency in reaching the cloud servers
- b) Reduces the latency in reaching the cloud servers
- c) Resides far from the mobile devices
- d) Resides near to the mobile devices

Correct Answer: b, d

Explanation: Cloudlet reduces the latency in reaching the cloud servers. Cloudlet resides near to the mobile devices.



QUESTION 4:

What is/are true about mobile cloud computing (MCC)?

- a) MCC increases the running cost for computation intensive applications
- b) MCC reduces the running cost for computation intensive applications
- c) MCC decreases battery lifetime
- d) None of these

Correct Answer: b

Explanation: MCC reduces the running cost for computation intensive applications.

QUESTION 5:

What is/are true about the execution of services in mobile cloud computing (MCC)?

- a) All services are executed in cloud
- b) Some services are executed in mobile devices and some services are executed in cloud
- c) All computation intensive services are executed in mobile devices
- d) None of these

Correct Answer: b

Explanation: Some services are executed in mobile devices and some services are executed in cloud.

QUESTION 6:

What of the following is/are fog device(s)?

- a) Cellular base stations
- b) Network routers
- c) WiFi Gateways
- d) None of these

Correct Answer: a, b, c

Explanation: Cellular base stations, network routers as well as WiFi Gateways are fog devices.

QUESTION 7:

What is/are the advantage(s) of fog computing?

- a) Reduction in data movement across the network resulting in reduced congestion
- b) Increase in data movement across the network resulting in increased congestion
- c) Serving the real-time applications
- d) None of these

Correct Answer: a, c

Explanation: The advantages of fog computing are:- reduction in data movement across the network resulting in reduced congestion, serving the real-time applications.



QUESTION 8:

Consider the following statements:

Statement 1: In Geospatial Cloud, it is needed to integrate data from heterogeneous back-end data service.

Statement 2: Data services can be inside and/or outside of the cloud environment in Geospatial Cloud.

- a) Statement 1 is Correct, but Statement 2 is Incorrect.
- b) Statement 2 is Correct, but Statement 1 is Incorrect.
- c) Both statements are Correct.
- d) Both statements are Incorrect

Correct Answer: c

Explanation: Both statements are correct regarding Geospatial Cloud concept. So, the correct option is (c).

QUESTION 9:

Which of the following statement(s) is/are FALSE about Fog Computing?

- a) Fog nodes present near to the end-user
- b) Fog computing enables real-time applications
- c) Fog nodes' response time is much higher than Cloud's
- d) Network routers, WiFi Gateways will not be capable of running applications

Correct Answer: c, d

Explanation: Fog nodes present near to the end-user, Fog computing use for real-time applications, Fog nodes' response time is much lower than cloud server, network routers, WiFi Gateways will be capable of running applications. So, the correct options are (c), (d).

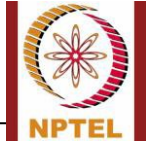
QUESTION 10:

Which of the following is/are true about Geospatial Cloud Model?

- a) It integrates data from homogeneous back-end data services
- b) Data services can be inside and/or outside the cloud environment
- c) Data services inside cloud can be run through SaaS service model
- d) None of the above

Correct Answer: b

Explanation: Data services can be inside and/or outside the cloud environment in Geospatial Cloud Model.



Cloud Computing
Assignment- Week 6
TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

Interception is considered as an attack on

- a) Confidentiality
- b) Availability
- c) Integrity
- d) Authenticity

Correct Answer: a

Solution: Interception security attack is attack on confidentiality

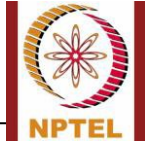
QUESTION 2:

Find the correct statement(s):

- a) Different types of cloud computing service models provide different levels of security services
- b) Adapting your on-premises systems to a cloud model requires that you determine what security mechanisms are required and mapping those to controls that exist in your chosen cloud service provider
- c) Data should be transferred and stored in an encrypted format for security purpose
- d) All are incorrect statements

Correct Answer: a, b, c

Solution: Cloud computing security or, more simply, cloud security refers to a broad set of policies, technologies, and controls deployed to protect data, applications, and the associated infrastructure of cloud computing



QUESTION 3:

Which of the following is/are example(s) of passive attack?

- a) Replay
- b) Denial of service
- c) Traffic analysis
- d) Masquerade

Correct Answer: c

Solution: Traffic analysis is an example of passive attack. Others are active attacks.

QUESTION 4:

Modification is considered as an attack on

- (a) Confidentiality
- (b) Availability
- (c) Integrity
- (d) Authenticity

Correct Answer: c

Solution: Modification security attack is attack on integrity

QUESTION 5:

Spoofing is not an example of

- (a) Deception
- (b) Disclosure
- (c) Usurpation
- (d) Disruption

Correct Answer: b, d

Solution: In the context of network security, a spoofing attack is a situation in which a person or program successfully masquerades as another by falsifying data, to gain an illegitimate advantage.



QUESTION 6:

Consider the following statements:

Statement I: Authorization is the identification of legitimate users.

Statement II: Integrity is the protection against data alteration/corruption.

Identify the correct options:

- a) Statement I is TRUE and statement II is FALSE.
- b) Statement I is FALSE and statement II is TRUE.
- c) Both statements are TRUE.
- d) Both statements are FALSE.

Correct Option: b

Solution: Refer slide no. 18 of Cloud-Security I. Authorization is the determination of whether or not an operation is allowed by a certain user. Integrity is the protection against data alteration/corruption. So the first statement is false and the second statement is true.

QUESTION 7:

Access policy control refers to

- a) Cyclic Inheritance Control
- b) Virus Attack
- c) Violation of SoD (separation of duties) Constraint
- d) Man in the middle attack

Correct Answer: a, c

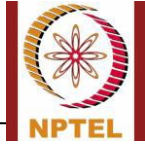
Solution: Access control policies are enforced through a mechanism that translates a user's access request, often in terms of a structure that a system provides. Virus attack and man in the middle attack are not related to access control policy.

QUESTION 8:

Which of the options is/are considered as the basic components of security?

- a) Confidentiality
- b) Integrity
- c) Reliability
- d) Efficiency

Correct Answer: a, b



Solution: Confidentiality (keeping data and resources hidden), Integrity and Availability (enabling access to data and resources) are the major components of security.

QUESTION 9:

Which of the following is/are not a type of passive attack?

- a) Traffic Analysis
- b) Release of message contents
- c) Denial of service
- d) Replay

Correct Answer: c, d

Solution: Passive attack (Traffic analysis, release of message contents) and Active attack (Denial of service, Modification, Masquerade and Replay)

QUESTION 10:

Side channel exploitation has the potential to extract RSA & AES secret keys

- a) True
- b) False

Correct Answer: a

Solution: Cross-VM information leakage due to sharing of physical resource (CPU's data caches).



Cloud Computing

Assignment-Week 5

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

In a SLA negotiation, the provider agreed with the service availability of 98%. The consumer runs the application for X hours/day. At the end of one month [31 days], the total service outage was 12 hrs. However, SLA negotiation (in terms of service availability) is honored.

- a. X is atleast 19.74
- b. X is atmost 19.74
- c. X is exactly 19.74
- d. Insufficient information

Correct Answer: a

Detailed Solution: Total time for which the application will run (in a month) = $(X \times 31)$ hours
Outage time = 12 hours
Therefore, service duration = $(X \times 31 - 12)$ hours
% Availability = $(1 - \text{outage time} / \text{service duration}) \times 100 \% = (1 - (12 / (X \times 31 - 12))) \times 100 \%$
Initial service guarantee = 98%
As, final service availability \geq initial service guarantee $98 \leq (1 - (12 / (X \times 31 - 12))) \times 100$ or, $X \geq 19.74$

QUESTION 2:

Average resource demand is 45 units, Baseline (owned) unit cost is 200 units, Time is 10 hours, Peak resource demand is 100 units. If the cloud is cheaper than owning of computer infrastructures, the utility premium is

- a. Greater than 2.22
- b. Less than 2.22
- c. Atleast 4.45
- d. Atmost 4.45

Correct Answer: b

Detailed Solution: $CT < BT$ implies $A * U * B * T < P * B * T$. Or, $A * U < P$. Or, $U < P/A$. Where A = Average Demand, U = Utility Premium, B = Baseline (owned) unit cost, T = Time, P = Peak Demand, CT = Cloud cost and BT = Owning cost. Here $P = 100$ units, $A = 45$ units $U < P/A$ implies $U < 100/45$ or, $U < 2.22$



QUESTION 3:

In computing, there is a linear relationship between the number of processing cores used and power consumption.

- a. TRUE
- b. FALSE

Correct Answer: a

Detailed Solution: Refer to slide 10 of resource management-I.

QUESTION 4:

The _____ takes a series of key/value pairs, processes each, and generates zero or more output.

- a. map function
- b. partition function
- c. reduce function
- d. None of these

Correct Answer: a

Detailed Solution: The map function takes a series of key/value pairs, processes each, and generates zero or more output.

QUESTION 5:

In a MapReduce framework the HDFS block size is 64 MB. We have 6 files of size 64KB, 65MB, X MB, Y KB, 67KB and 127MB. 24 blocks are created by Hadoop framework. The size of X and Y are respectively [one or more than one options may be correct, select all correct options]:

- a. 66 and 64
- b. 64 and 64
- c. 64 and 66
- d. 128 and 64

Correct Answer: b, c



Detailed Solution: The total number of blocks needed for 64 KB, 65 MB, 67 KB, 127 MB is $(1+2+1+2)*3=18$ [3 is the number of replicas] Number of remaining blocks $= (24-18)/3 = 6/3 = 2$ [3 is the number of replicas] Only option b and c are correct as the size requirement can be satisfied with 2 blocks.

QUESTION 6:

Which among the following is/are logical resource(s)?

- a. Network
- b. Computer
- c. Database
- d. Execution

Correct Answer: d

Detailed Solution: Execution is a logical resource.

QUESTION 7:

When load decreases, VM management can be done by

- a. Live migrate VMs to more utilized nodes
- b. Shutdown unused nodes
- c. Migrate VMs to less utilized nodes
- d. None of these

Correct Answer: a,b

Detailed Solution: When load decreases, VM management can be done by – a) Live migrating VMs to more utilized nodes b) Shutting down unused nodes

QUESTION 8:

Correspondence between resources required by the users and resources available with the provider is known as a. Resource provisioning b. Resource adaptation c. Resource mapping d. None of these

Correct Answer: c

Detailed Solution: Correspondence between resources required by the users and resources available with the provider is known as resource mapping.



QUESTION 9:

Ability or capacity of that system to adjust the resources dynamically to fulfill the requirements of the user is known as

- a. Resource provisioning
- b. Resource adaptation
- c. Resource mapping
- d. None of these

Correct Answer: b

Detailed Solution: Ability or capacity of that system to adjust the resources dynamically to fulfill the requirements of the user is known as resource adaptation.

QUESTION 10:

Statement 1: Map operation consists of transforming one set of key-value pairs to another.

Statement 2: Each reducer groups the results of the map step using the same key.

- a. Both statements are true
- b. Both statements are false
- c. Statement 1 is true and Statement 2 is false
- d. Statement 1 is false and Statement 2 is true

Correct Answer: a

Detailed Solution: Map operation consists of transforming one set of key-value pairs to another. Each reducer groups the results of the map step using the same key.



Cloud Computing

Assignment-Week 4

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

SQL Azure is a cloud-based relational database service that is based on:

- (a) Oracle
- (b) SQL Server
- (c) MySQL
- (d) None

Correct Answer: b

Solution: SQL Azure is Microsoft's cloud database service based on SQL Server database technology and built on Microsoft's Windows Azure cloud computing platform

QUESTION 2:

Microsoft Azure provides

- (a) SaaS
 - (b) PaaS
 - (c) IaaS
 - (d) None
-

Correct Answer: a, b, c

Solution: Microsoft Azure, formerly known as Windows Azure, is Microsoft's public cloud computing platform. It provides a range of cloud services, including those for compute, analytics, platform, storage and networking

QUESTION 3:

Azure App Service plan defines

- (a) Region
- (b) Instance size
- (c) Scale count
- (d) None

Correct Answer: a,b,c

Solution: An App Service plan defines a set of compute resources for a web app to run. Each App Service plan defines:

- I. Region (West US, East US, etc.)
- II. Number of VM instances



III. Size of VM instances (Small, Medium, Large)

IV. Pricing tier (Free, Shared, Basic, Standard, Premium, PremiumV2, Isolated, Consumption)

QUESTION 4:

The OpenStack component - Glance monitors and meters the OpenStack cloud for billing, benchmarking. State True or False.

- a) True
- b) False

Correct Answer: b

Solution: Glance image services include discovering, registering, and retrieving virtual machine images. Ceilometer provides telemetry services, which allow the cloud to provide billing services to individual users of the cloud.

QUESTION 5:

GCP: Choose the correct option(s)

- a) To run your web-application, you need to configure only the Google Storage bucket
- b) “gcloud app deploy app.yaml” the command can be used to deploy your app to app-engine
- c) After launching your application to app-engine anyone can view the app at [http://\[YOUR_PROJECT_ID\].appspot.com](http://[YOUR_PROJECT_ID].appspot.com)
- d) “gcloud app browse” – can be used to start the local development server for the application

Correct Answer: b, c

Solution: a) is wrong because you can't run your web-app only configuring storage bucket, you need a PaaS configuration. Option d) is incorrect as that command is used to view web-app.

QUESTION 6:

In OpenStack, the different components of Nova (e.g. scheduler, Compute, api etc.) communicate via:

- (a) Message Queues
- (b) Neutron
- (c) Conductor
- (d) Swift

Correct Answer: a



Solution: Nova is comprised of multiple server processes, each performing different functions. The user-facing interface is a REST API, while internally Nova components communicate via an RPC message passing mechanism

QUESTION 7:

In OpenStack, _____ is a system for managing networks and IP addresses.

- (a) Nova
- (b) Keystone
- (c) Neutron
- (d) None of these

Correct Answer: c

Solution: Neutron provides the networking capability for OpenStack. It helps to ensure that each of the components of an OpenStack deployment can communicate with one another quickly and efficiently.

QUESTION 8:

Cloud DataStore in GCP is a NoSQL document database built for automatic scaling, high performance, and ease of application development

- a) True
- b) False

Correct Answer: a

Solution: Google Cloud Datastore is a highly scalable, fully managed NoSQL database service offered by Google on the Google Cloud Platform. Cloud Datastore is built upon Google's Bigtable and Megastore technology.

QUESTION 9:

GCP: Which one is/are correct statement(s)?

- a) You can reuse the project ID only after you delete the previous project in GCP
- b) A CNAME alias is a DNS record that lets you use a URL from your own domain to access resources, such as a bucket and objects, in Cloud Storage using your custom domain URL
- c) "Multi-Regional" Storage class is used for the bucket to stream videos and host hot web content accessed frequently around the world
- d) "Nearline" Storage class is used for the bucket to store data accessed frequently in one part of the world

Correct Answer: c, b

Solution: We cannot use the same project ID as it is the unique identifier. Nearline Storage is appropriate for data backup, disaster recovery, and archival storage while Regional Storage enables to store data at lower cost and data being stored in a specific regional location, instead of having redundancy distributed over a large geographic area.



QUESTION 10:

OpenStack: Which IP use is preferred for transferring data to a VM from

- (i) Another VM in the same cloud
- (ii) One organization's network-
 - (a) i. Floating IP, ii. Private IP
 - (b) i. Private IP, ii. Floating IP
 - (c) Floating IP in both cases
 - (d) Private IP in both cases

Correct Answer: b

Solution: Compute assigns a private IP address to each VM instance. Compute makes a distinction between fixed IPs and floating IP. Fixed IPs are IP addresses that are assigned to an instance on creation and stay the same until the instance is explicitly terminated. Floating IPs are addresses that can be dynamically associated with an instance. A floating IP address can be disassociated and associated with another instance at any time. A user can reserve a floating IP for their project.

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Cloud Computing

Assignment-Week 3

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

Which of the following statement(s) regarding OpenStack storage is/are right?

- A. Object storage is managed by Cinder
- B. Both ephemeral storage and block storage are accessible from within VM
- C. Block storage persists until VM is terminated
- D. Ephemeral storage is used to run operating system and/or scratch space

Correct Option: B,D

Detailed Answer: Object storage is managed by Swift. Block storage persists until specifically deleted by the user. Thus, statements A and C are false.

QUESTION 2:

A task takes time T in a uniprocessor system. In a parallel implementation, the task runs on P processors parallelly. The parallel efficiency is Eff , where $0 < Eff < 1$. What is the time taken by each processor (M) in this implementation?

- A. $M = T$
- B. $M = T/(Eff \times P)$
- C. $M = T/P$
- D. $M = (T \times Eff)/P$

Correct Option: B

Detailed Answer: According to the question, parallel efficiency (Eff) is less than 1. Therefore, the time taken by each processor will be greater than the ideal T/P , and $M = T/(Eff \times P)$.

QUESTION 3:

What does the term "biasness towards vendors" imply in the context of SLA monitoring?

- A. Vendor-driven selection of monitoring parameters
- B. Customer-driven selection of monitoring parameters
- C. Balanced approach in monitoring parameters



D. Lack of active monitoring on the customer's side

Correct Answer: A

Detailed Solution: Biasness towards vendors means measurement of parameters is mostly established according to vendor advantage or in other words vendor-driven selection of monitoring parameters

QUESTION 4:

How does the master node in the Google File System maintain communication with chunk servers?

- A. Command messages
- B. Update messages
- C. Query messages
- D. Heartbeat messages

Correct Answer: D

Detailed Solution: In GFS, master maintains regular communication with chunk servers by Heartbeat messages

QUESTION 5:

In a cloud, total service uptime is 175 minutes and availability of the service is 0.85. What is the service downtime?

- A. 55 minutes
- B. 148.75 minutes
- C. 26.25 minutes
- D. 45 minutes

Correct Option: C

Detailed Answer: Availability = $1 - (\text{downtime}/\text{uptime})$.

Downtime = $\text{Uptime} \times (1 - \text{Availability}) = 175 \times (1 - 0.85) = 26.25$ minutes.



QUESTION 6:

Statement 1: In ephemeral storage, the stored objects persist until the VM is terminated.

Statement 2: The ephemeral storage is managed by Cinder in OpenStack.

- A. Statement 1 is TRUE, Statement 2 is FALSE
- B. Statement 2 is TRUE, Statement 1 is FALSE
- C. Both statements are TRUE
- D. Both statements are FALSE

Correct Answer: A

Detailed Solution: Ephemeral storage is managed by NOVA in OpenStack.

QUESTION 7:

“Midsize providers can achieve similar statistical economies to an infinitely large provider” Does this fall under?

- A. Correlated demand
- B. Dependent demand
- C. Independent demand
- D. Mixed demand

Correct Option: C

Detailed Answer: Midsize providers can achieve similar statistical economies to an infinitely large provider—*independent* demands.

QUESTION 8:

Let $D(t)$ and $R(t)$ be the instantaneous demand and resources at time t respectively. If demand is exponential ($D(t)=e^t$), any fixed provisioning interval (tp) according to the current demands will fall linearly behind.

- A. TRUE
- B. FALSE

Correct Option: B

Detailed Answer: If demand is exponential ($D(t)=e^t$), any fixed provisioning interval (tp) according to the current demands will fall exponentially behind.



QUESTION 9:

Which of the following is/are expected common SLA parameter(s) for both Software-as-a-Service and Storage-as-a-Service models?

- A. usability
- B. scalability
- C. recovery
- D. None of these

Correct Option: B

Detailed Answer: Scalability is common among the options.

QUESTION 10:

Data retention and deletion by cloud providers do not fall under one of the SLA requirements.

- A. True
- B. False

Correct Option: A

Detailed Answer: Some cloud providers have legal requirements of retaining data even if it has been deleted by the consumer. Hence, they must be able to prove their compliance with these policies.



Cloud Computing

Assignment-Week 2

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

Service-Oriented Architecture (SOA) possess:

- a) A service provider, service requestor and service broker
- b) A service provider and service requestor
- c) A service requestor and service broker
- d) Only a service broker

Correct Option: A

Detailed Answer: Service-Oriented Architecture (SOA) possesses: A service provider, service requestor and service broker

QUESTION 2:

XML is designed to describe _____.

- a) pricing
- b) SLA
- c) data
- d) service

Correct Option: C

Detailed Answer: XML is designed to describe data.

QUESTION 3:

SOAP (Simple Object Access Protocol) does not restrict the endpoint implementation technology choices. SOAP is a platform-neutral choice.

- a) True
- b) False

Correct Option: A

Detailed Answer: SOAP does not restrict the endpoint implementation technology choices. SOAP is platform-neutral choice.



QUESTION 4:

A Cyber-Physical Cloud Computing (CPCC) architectural framework is a _____ environment that can rapidly build, modify and provision cyber-physical systems composed of a set of _____ based sensor, processing, control, and data services.

- a) system, cloud computing
 - b) cloud computing, system
 - c) system, edge computing
 - d) edge, system computing
-

Correct Answer: A

Detailed Solution: A Cyber-Physical Cloud Computing (CPCC) architectural framework can be defined as “a system environment that can rapidly build, modify and provision cyber-physical systems composed of a set of cloud computing based sensor, processing, control, and data services.”

QUESTION 5:

Network Virtualization is a _____ environment that allows _____ service providers to dynamically compose _____ virtual networks.

- a) networking, single, single
 - b) physical, single, multiple
 - c) networking, multiple, single
 - d) networking, multiple, multiple
-

Correct Option: D

Detailed Answer: Network Virtualization is a networking environment that allows multiple service providers to dynamically compose multiple virtual networks.

QUESTION 6:

Customized wearable devices for collecting health parameters are the best examples of

- a) IoHT
 - b) Fog device
 - c) Fog-Cloud interfaced.
 - d) Cloud-Fog-Edge-IoHT
-

Correct Answer: d

Detailed Solution: Customized wearable devices for collecting health parameters are the best examples of Cloud-Fog-Edge-IoHT.



QUESTION 7:

Dew Computing is a paradigm where on-premises computers provide functionality that is _____ of cloud services and is also collaborative with cloud services

- a) dependant
- b) independent
- c) partial dependant
- d) none of these

Correct Option: B

Detailed Solution: According to the definition given, dew computing is a paradigm where on-premises computers provide functionality that is independent of cloud services and is also collaborative with cloud services.

QUESTION 8:

SOAP uses _____ as transport protocol

- a) UDDI
- b) SLA
- c) HTTP
- d) XML

Correct Answer: c

Detailed Solution: SOAP uses HTTP as transport protocol.

QUESTION 9:

Virtual Machine Monitor is also known as

- a) Cluster Manager
- b) Virtual Machine Handler
- c) Virtual Machine Manager
- d) Hypervisor

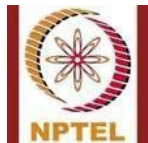
Correct Option: D

Detailed Answer: The hypervisor is also known as Virtual Machine Monitor

QUESTION 10:

Which of the following is/are XML parser API(s)?

- a) XaaS (Anything as a Model)
- b) SAX (Simple API to XML)
- c) CLI (Command Line Interface)
- d) DOM (Document Object Model)



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Correct Option: B, D

Detailed Answer: DOM and SAX are two of the three generic parser APIs. They read XML data, check for syntax, and make data available to an application.

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Cloud Computing

Assignment-Week 1

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total mark: 10 X 1 = 10

QUESTION 1:

Which of the following fall(s) under the “essential characteristics” of cloud computing?

- A. Resource Pooling
- B. Measured Service
- C. Rapid Elasticity
- D. Latency

Correct Answer: A,B,C

Detailed Solution: cloud computing is a model for on-demand network access to a shared pool of configurable computing resources that can provide rapid elasticity. It provides automatic control and optimizes resource use by leveraging a metering capability.

QUESTION 2:

“Google Doc” is an example of

- A. PaaS
- B. IaaS
- C. SaaS
- D. FaaS

Correct Answer: C

Detailed Solution: Google Slide is a provider’s application that runs on Google Cloud. The application can be accessed from various client terminals through a client interface, say a web browser. So, It is a Software as a Service (SaaS) model.

QUESTION 3:

Business-Process-as-a-Service is not a part of XaaS.

- A) True
- B) False

Correct Answer: B

Detailed Solution: Business-Process-as-a-Service is a part of XaaS (Anything-as-a-Service).



mechanisms to avoid single points of failure.

QUESTION 4:

Network Function Virtualization involves the implementation of _____ function in software that can run on a range of industry-standard servers _____.

- A. network,software
- B. hardware, software
- C. hardware, network
- D. network,hardware

Correct Answer: D

Detailed Solution: Network Function Virtualization involves the implementation of network function in software that can run on a range of industry-standard servers hardware.

QUESTION 5:

Which are the following applications for SaaS (Software as a Service) architecture?

- A) Billing software
- B) CRM
- C) App engines
- D) None of above

Correct Answer: A,B

Detailed Solution: SaaS is useful for Billing and CRM software. PassS is useful for app engines.

QUESTION 6:

Web access to commercial software is one of the SaaS characteristics in the cloud computing paradigm.

- A. True
- B. False

Correct Answer: A

Detailed Solution: Web access to commercial software is one of the SaaS characteristics in the cloud computing paradigm.



QUESTION 7:

In the case of the client-server model: Statement (i) Virtualization is a core concept; Statement (ii) system can scale infinitely

- A) Only Statement (i) is correct
- B) Only Statement (ii) is correct
- C) Both Statements (i) and (ii) are correct
- D) None of the statements is correct

Correct Answer: D

Detailed Solution: In the case of the client-server model: there is no concept of virtualization; the system can scale up to a certain extent.

QUESTION 8:

Client-server model is always load-balanced

- A) True
- B) False

Correct Answer: B

Detailed Solution: The Client-server model may or may not be load-balanced

QUESTION 9:

PaaS (Platform as a Service) brings the benefits: (i) Creation of software (ii) Integration of web services and databases

- A. Only (i)
- B. Only (ii)
- C. Both (i) and (ii)
- D. Neither (i) nor (ii)

Correct Answer: C

Detailed Solution: PaaS is a computing platform that allows developers to quickly create software or online applications by connecting web services and databases.



QUESTION 10:

Which of the following is false?

- a) Private cloud is dedicated solely to an organization.
- b) Community cloud is a composition of public and private cloud.
- c) Public cloud is available to the general public.
- d) None of these

Correct Answer: b

Detailed Solution: Community cloud is shared by several organizations and serves a specific goal.

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