

Discourse Questions

22AI504/22AM504 - CLOUD COMPUTING

1. Question

Identify the most common cloud providers in cloud computing paradigm.

- a) AWS
- b) Microsoft Azure
- c) Google Cloud Platform
- d) All the above

Answer

- d) All the above

2. Question

The below table shows some popular SaaS providers and the services that are provided by them , identify the missing service and providers correct data to missing part.

Provider	Services
1.Salseforce.com	
2.Microsoft Office 365	
3.	Gmail, Google Calendar, Docs, and sites
4.Oracle CRM	
5. NetSuite	

Answer

- 1.Salesforce.com - On-demand CRM solutions - 1 Mark
- 2.Microsoft Office 365 - Online office suite - 1 Mark
- 3.Google Apps - Gmail or Google Calendar or Docs or sites- 1 Mark
- 4.Oracle CRM - CRM applications- 1 Mark
- 5.NetSuite- ERP or accounting or order management or CRM or Professionals Services Automation (PSA) or e-commerce applications.- 1 Mark

3. Question

Consider a retail company sets up cloud infrastructure by deploying its e-commerce platform on AWS for scalable web services and global reach for advanced data analytics to optimize inventory management. To ensure regulatory compliance, the company integrates a private cloud for handling sensitive customer data securely.

Rearrange the following steps to set up cloud infrastructure for retail company in correct order.

- i. Design and Architecture
- ii. Training and Support
- iii. Assessment and Planning
- iv. Implementation and Configuration
- v. Testing and Validation

Answer

- i. Assessment and Planning (0.5 Mark)
- ii. Design and Architecture (1 Mark)
- iii. Implementation and Configuration (1 Mark)
- iv. Testing and Validation (1 Mark)
- v. Training and Support (0.5 Mark)

4. Question

Predict the benefit of cloud computing refers to the ability to access computing resources over the Internet from anywhere with an Internet connection.

- a) Scalability
- b) Elasticity
- c) Broad network access
- d) On-demand self-service

Answer

- c) Broad network access

5. Question

In server virtualization, what is the role of a hypervisor?

- a) To create and manage virtual machines
- b) To provide network services
- c) To store data securely
- d) To manage user authentication

Answer

- a) To create and manage virtual machines - 1 Mark

6. Question

Say true or false for the given statement with justification:

In SaaS, users are responsible for maintaining the underlying infrastructure and servers.

- a) True
- b) False

Answer

- (b) False - 1Mark

justify: In SaaS, the provider is responsible for maintaining the infrastructure, while users focus on using the application.- 1Mark

7. Question

Consider the architecture of Public and Private Cloud,

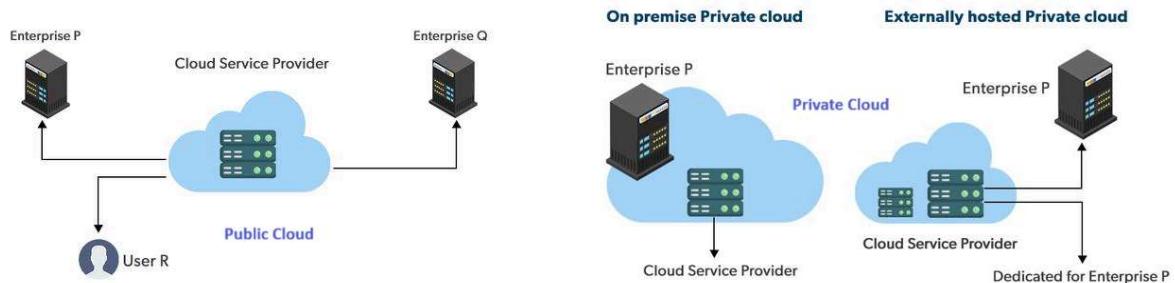


Figure. Architecture of Public and Private Cloud

With reference to the Figure titled "Architecture of Public and Private Cloud", Design the Hybrid Cloud setup for Educational Institution.

Answer

Public Cloud Setup - (1 Mark)

Private Cloud Setup - (1 Mark)

Virtual Private Cloud - (1 Mark)

Organization Data Center - (1 Mark)

End Users - (1 Mark)

Sample Hybrid Architecture

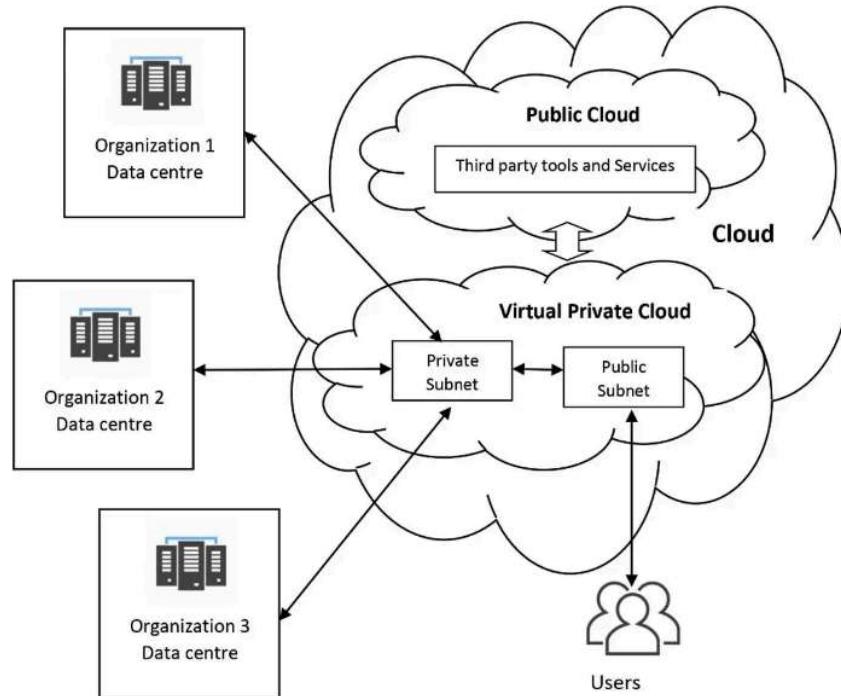


Figure. Hybrid Architecture of Educational Institution

8. Question

Identify the cloud deployment model involves providing cloud infrastructure to a single organization or entity and is managed either by the organization or a third party.

- a) Public cloud
- b) Private cloud
- c) Hybrid cloud
- d) Community cloud

Answer

b) Private cloud

9. Question

Identify the characteristic of cloud computing allows for the rapid provision and release of computing resources with minimal management effort.

- a) Broad network access
- b) Resource pooling
- c) Rapid elasticity
- d) Measured service

Answer

c) Rapid elasticity

10. Question

Predict the cloud computing model combines aspects of both public and private cloud models, allowing data and applications to be shared between them.

- a) Public cloud
- b) Hybrid cloud

- c) Private cloud
- d) Community cloud

Answer

- b) Hybrid cloud

11. Question

Find out Which of the following is an example of a SaaS application?

- a) Microsoft Azure
- b) Google Docs
- c) Amazon EC2
- d) VMware

Answer

- b) Google Docs - 1 Mark

12. Question

PaaS is ideal for which stage of application development?

- a) Conceptualization
- b) Coding and testing
- c) Deployment
- d) All of the above

Answer

- d) All of the above

13. Question

Infrastructure as a Service (IaaS) is a cloud computing service model that provides virtualized computing resources over the internet.

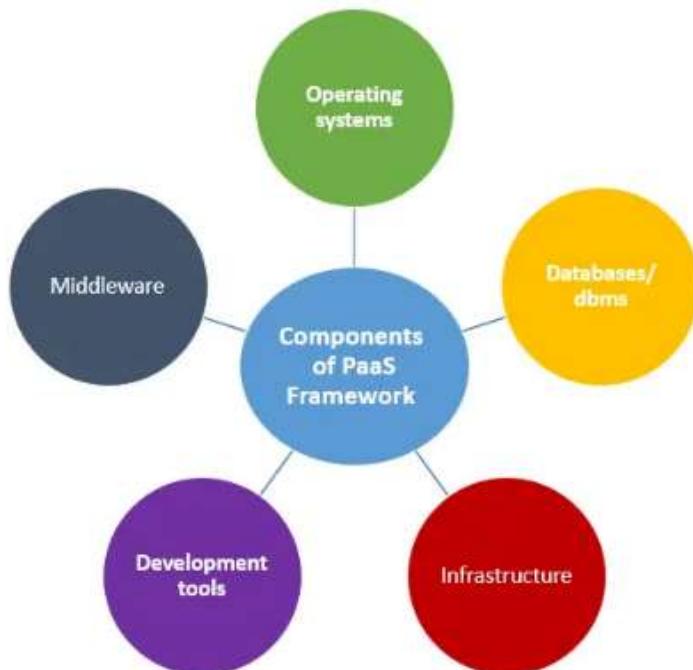


Figure -PaaS Component

From the figure find out the any 3 key component of IAAS:

Answer

- any 3 key component of IAAS:
- 1. Compute Resources -1 Mark

- 2.Storage -1 Mark
- 3.Networking -1 Mark
- 4.Identity and Access Management (IAM) -1 Mark
- 5.Disaster Recovery -1 Mark
- 6.Backup -1 Mark

14. Question

In PaaS, who manages the operating system and middleware?

- a) The customer
- b) The service provider
- c) A third-party vendor
- d) Both customer and provider

Answer

- b) The service provider - 1 Mark

15. Question

Find out that which of the following is a benefit of using PaaS?

- a) High degree of customization
- b) Automatic scalability
- c) Complete hardware control
- d) Direct access to the underlying operating system

Answer

- b) Automatic scalability

16. Question

Conclude the Assertion and Reason:

Assertion: Microsoft Azure provides more seamless integration with on-premises infrastructure compared to Google Cloud Platform (GCP) and Amazon Web Services (AWS).

Reason: Azure offers a variety of hybrid cloud solutions and tools that are designed to work closely with on-premises Microsoft products, such as Windows Server and Active Directory, making it easier to integrate and manage both cloud and on-premises resources.

- a) Both Assertion and Reason are True, and the Reason is the Correct Explanation for the Assertion.
- b) Both Assertion and Reason are True, but the Reason is Not the Correct Explanation for the Assertion.
- c) Assertion is True, but the Reason is False.
- d) Assertion is False, but the Reason is True.
- e) Both Assertion and Reason are False.

Answer

- a) Both Assertion and Reason are True, and the Reason is the Correct (2 Marks)

17. Question

Consider the list of hardware's for Cloud data centers has vast arrays of servers and storage systems to deliver scalable and reliable cloud services.

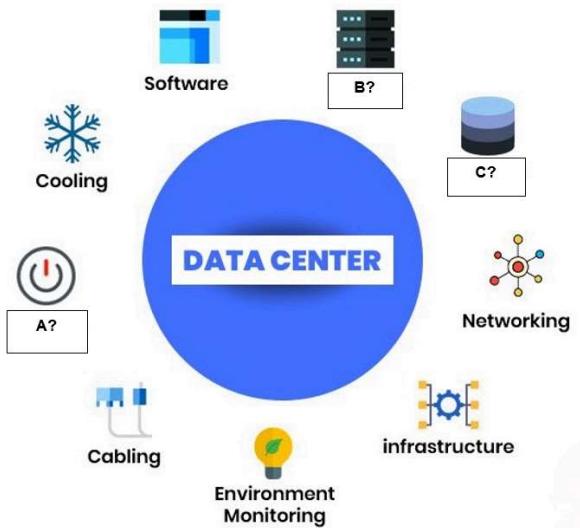


Figure. Hardware components of Cloud Data Center

Identify the missing hardware components A, B and C in the Figure titled "Hardware components of Cloud Data Center" with respect to Cloud Data Center Infrastructure Setup.

Answer

- A. Power Backup (1 Mark)
- B. Server (1 Mark)
- C. Storage (1 Mark)

18. Question

Consider the Cloud Computing Reference Model to implement the cloud concepts and provide services to end users based on their requirement.

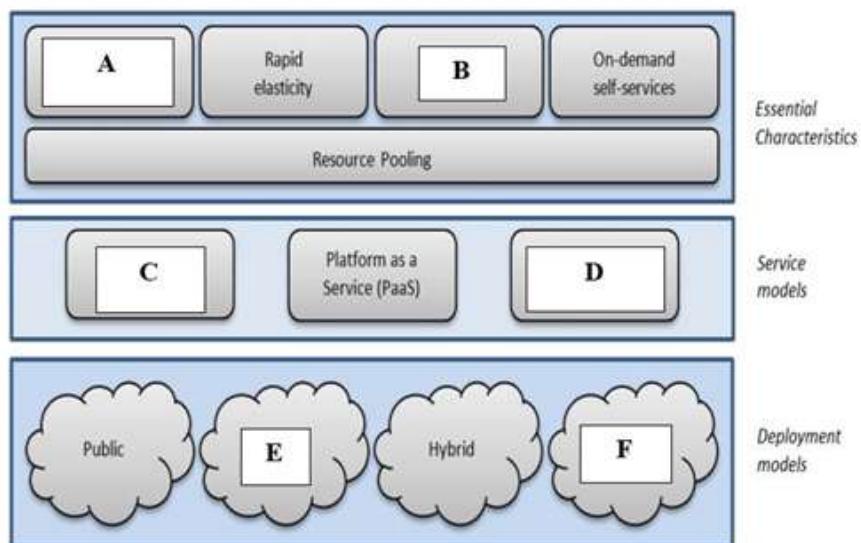


Figure. Cloud Computing NIST Reference Model

Predict the missing blocks A, B, C, D, E and F from the Figure titled "Cloud Computing Reference Model".

Answer

- A. Broad Network Access (1 Mark)
- B. Measured Services (1 Mark)
- C. Software as a Service (SaaS) (1 Mark)
- D. Infrastructure as a Service (IaaS) (1 Mark)
- E. Private (1 Mark)
- F. Community (1 Mark)

19. Question

Consider that the public cloud offers shared, scalable services over the internet whereas private cloud provides dedicated infrastructure for a single organization also hybrid cloud combines both public and private resources for flexibility and

Community Cloud serves multiple organizations with shared interests, balancing collaboration and control.

Match the following:

S.No	Cloud Model	Description	Examples
1	Public Cloud (A1)	Combination of public and private cloud elements. (B1)	Bank of America's cloud infrastructure. (C1)
2	Private Cloud (A2)	Managed and owned by third-party cloud providers. (B2)	Educational Institution, Dropbox. (C2)
3	Hybrid Cloud (A3)	Shared infrastructure among several organizations. (B3)	Government Community Cloud (GCC). (C3)
4	Community Cloud (A4)	Owned and managed by a single organization. (B4)	Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP). (C4)

Answer

1. A1 - B2 - C4 (1 Mark)
2. A2 - B4 - C1 (1 Mark)
3. A3 - B1 - C2 (1 Mark)
4. A4 - B3 - C3 (1 Mark)

20. Question

By analyzing the given figure, identify the structure of PaaS with justification .

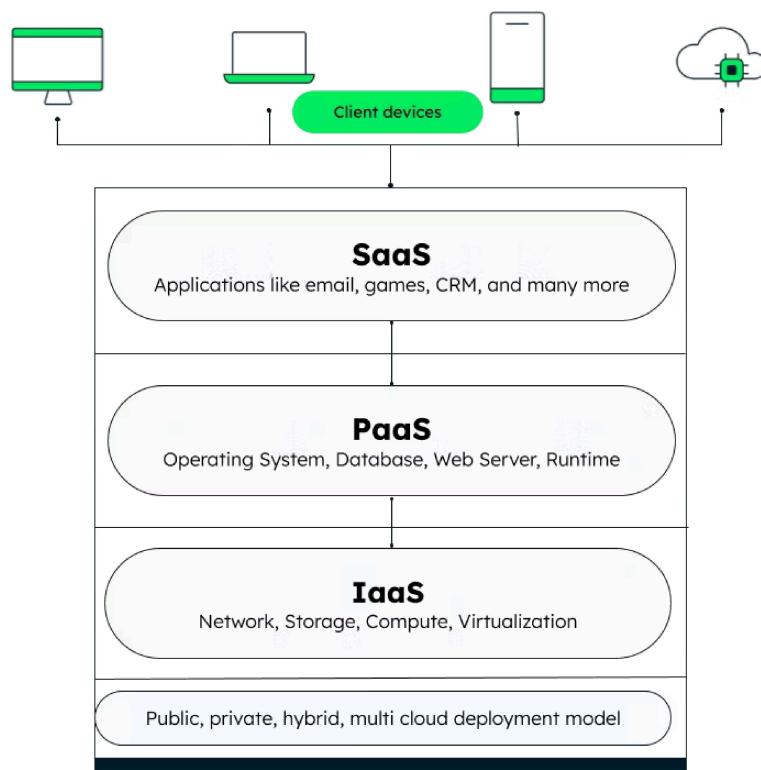
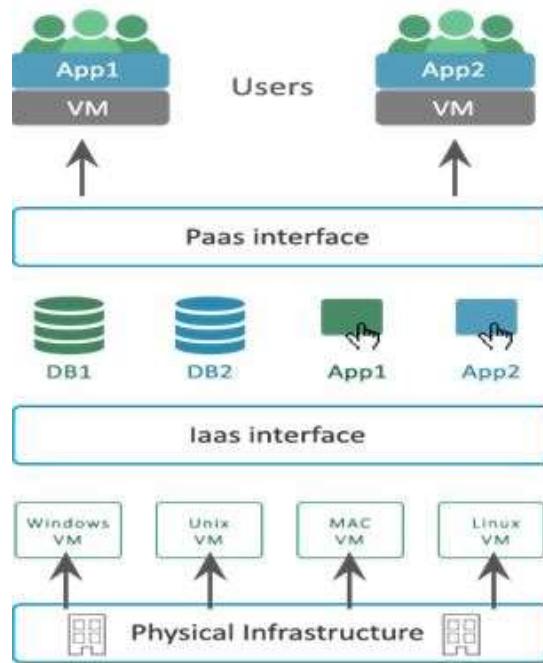


Figure - IAAS

Answer

1. Justification - 2 mark
- PaaS Structure - 4 mark split up for paas structure ·
2. Physical infrastructure -1 mark ·
3. Iaas - 1 mark ·
4. Paas - 1mark ·
5. VM - 1 mark



21. Question

SaaS is a cloud-based delivery model: SaaS applications are accessed via the internet, so there's no need to install or maintain software on a local device.

Say the true or false:

SaaS reduces the need for users to install and manage software on their local devices

- True
- False

Answer

a) True - 1mark

justify: SaaS applications are accessed over the internet, eliminating the need for local installation and management.- 1mark

22. Question



Figure - Software as a Service

By using given figure find out the key component of Platform As A Service:

Answer

1. Development Tools
2. Middleware
3. Database Management Systems
4. Operating Systems
5. Servers and Networking
6. Deployment and Management Tools

23. Question

In a SaaS Model , what is primarily required for users to access the software ?

- a) Internet connection
- b) Dedicated hardware
- c) Local server
- d) Special operating system

Answer

- a) Internet connection - 1 Mark

24. Question

PaaS is most suitable for which of the following use cases?

- a) Developing and deploying web applications
- b) Hosting static websites
- c) Storing large amounts of data
- d) Running legacy software

Answer

- a) Developing and deploying web applications- 1 Mark

25. Question

As part of the migration, your team discusses the importance of understanding the changes in the new YAML specification and how it affects pipeline definitions, deployment strategies, and task coverage.

Identify that given statement are valid or invalid

- 1.YAML 1.2.2 introduces normative changes compared to version 1.2.1.
- 2.The YAML 1.2.2 specification now has diagrams rendered in SVG from LaTeX.
- 3.In YAML pipelines, jobs.deployment.strategy.rolling is used to define a RunOnce Deployment strategy.
- 4.YAML schema for Azure Pipelines does not cover tasks.
- 5.YAML pipeline resources include container images that can trigger on all image tags.

Answer

1. Invalid :The revision 1.2.2 has no normative changes from the 1.2.1 version.-1mark
2. Valid:Diagram images in the new specification are now SVG rendered from LaTeX.-1mark
3. Invalid:The RunOnce Deployment strategy is specified with jobs.deployment.strategy.runOnce, not rolling..-1mark
4. Valid:The YAML schema reference for Azure Pipelines does not cover tasks, which are detailed separately in the Azure Pipelines tasks index.-1mark
5. Valid: Resources for container images in YAML pipelines can trigger on all image tags or be customized..-1mark

26. Question

Which type of application is most commonly deployed in the cloud?

- a) Desktop applications
- b) Web applications
- c) Mobile applications
- d) Embedded applications

Answer

b) Web applications - 1 Mark

27. Question

Identify that given statements are valid or invalid

- 1.Functionality mapping ensures that the application's business logic is matched with cloud services for efficient deployment.
- 2.Application attributes do not include security or performance considerations when deploying in the cloud.
- 3.Cloud APIs only allow for communication within a single cloud platform and cannot be used for integrating third-party services.
- 4.Performance testing is an optional step after cloud deployment since cloud services guarantee optimal performance.
- 5.Cloud APIs simplify the process of connecting an application to external services like databases or payment gateways.
- 6.Cloud storage interoperability allows seamless data transfer between different cloud platforms without requiring significant modifications.

Answer

- 1.Valid-1Mark
- 2.Invalid-1Mark
- 3.Invalid-1Mark
- 4.Invalid-1Mark
- 5.Valid-1Mark
- 6.Valid-1Mark

28. Question

Identify the relation between Assertion ,Reason and justify it :

Assertion: Security mapping helps in aligning the security requirements with the cloud architecture effectively. Reason: Security mapping allows for a clear visualization of the relationship between cloud services and their associated risks.

- a)Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.
- b)Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- c)Assertion is true, but Reason is false.
- d)Assertion is false, but Reason is true.

Answer

- a) Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.-1 Mark

Justification: Security mapping is a process that involves visualizing and understanding the security requirements of different cloud services, thus aligning them with the overall cloud architecture and risk management strategies.-1 Mark

29. Question

Below is a flowchart representing the process of moving your health monitoring application to the cloud. However, some steps are missing. Fill in the missing steps (marked as "??") to complete the flowchart.



Monitoring the cloud application

Answer

1. Evaluate application attributes (Step 1) - 1Mark
2. Map functionality to cloud (Step 3) - 1Mark
3. Monitor performance and scale(Step 5) - 1Mark

30. Question

Cloud applications help reduce:

- a) Internet bandwidth
- b) Data redundancy
- c) Infrastructure costs
- d) File size

Answer

- c) Infrastructure costs - 1 Mark

31. Question

In cloud architecture, functionality mapping helps to:

- a) Define network boundaries
- b) Optimize the use of cloud resources
- c) Enhance the user interface
- d) Increase latency

Answer

- b) Optimize the use of cloud resources - 1Mark

32. Question

The purpose of functionality mapping is to:

- a) Identify cost-saving opportunities

- b) Define security roles
- c) Match cloud services with application requirements
- d) Track performance metrics

Answer

- c) Match cloud services with application requirements - 1Mark

33. Question

Match the Following :

Feature (A)	Descriptions (B)	Examples (C)
1. Scalability	1. The ability to recover quickly from failures	1. Amazon S3
2. High Availability	2. Adjusting resources based on demand	2. Azure Load Balancer
3. API Integration	3. Ensures application is accessible and operational 24/7	3. Payment Gateway API
4. Multi-Tenancy	4. Sharing resources among multiple users securely	4. Google Workspace
5. Real-Time Processing	5. Ability to process data as it arrives	5. Azure Stream Analytics

Answer

Feature (A)	Descriptions (B)	Examples (C)
1. Scalability	1. Adjusting resources based on demand	1. Azure Load Balancer
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3. API Integration	3. The ability to recover quickly from failures	3. Payment Gateway API
4. Multi-Tenancy	4. Sharing resources among multiple users securely	4. Amazon S3
5. Real-Time Processing	5. Ability to process data as it arrives	5. Azure Stream Analytics

1-2-5 - 1 Mark

2-3-4 - 1 Mark

3-1-3 - 1 Mark

4-4-1 - 1 Mark

5-5-5 - 1 Mark

34. Question

Functionality mapping in cloud services refers to:

- a) Mapping IP addresses
- b) Aligning cloud resources with business needs

- c) Physical server locations
- d) Network optimization

Answer

- b) Aligning cloud resources with business needs - 1Mark

35. Question

A global retail company is migrating its e-commerce platform to the cloud to handle increasing traffic during peak sales events. The company requires a solution that ensures scalability, high availability, and the ability to integrate with external payment gateways and logistics systems. The cloud platform must provide a reliable API for these integrations while ensuring data security and real-time processing of orders.

Identify the relation between assertion and reason from give choice and justify it :

Assertion: The cloud application must be designed to handle unpredictable traffic spikes during sales events.

Reason: Scalability is a core feature of cloud applications, allowing them to dynamically allocate resources based on demand.

- a) Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.
- b) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- c) Assertion is true, but Reason is false.
- d) Assertion is false, but Reason is true.
- e) Both Assertion and Reason are false.

Answer

- a) Both Assertion and Reason are true, and Reason is the correct explanation of Assertion. -1Marks

Justification: Scalability allows cloud applications to handle traffic spikes by automatically adjusting resources, ensuring smooth operation during peak demand. This is critical for e-commerce platforms during sales events. 2Marks

36. Question

Cloud applications are primarily delivered via:

- a) USB drives
- b) The internet
- c) DVDs
- d) Local networks

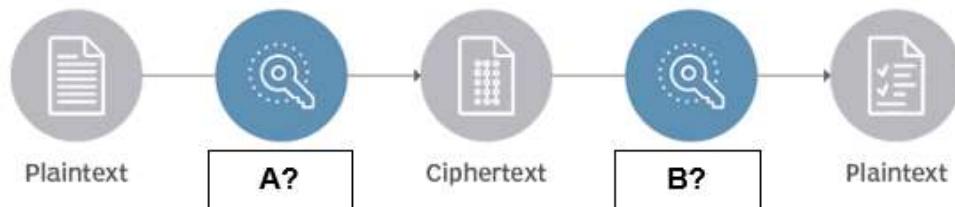
Answer

- b) The internet - 1 Mark

37. Question

In cloud computing, symmetric encryption is used for fast and efficient data encryption of large files at rest, such as user documents stored in cloud storage, using the same key for both encryption and decryption. Asymmetric encryption is used for secure key exchange and authentication, such as encrypting data or communication with a public key, which can only be decrypted by the corresponding private key, ensuring secure access to cloud services. This combination ensures both the efficiency and security of data transactions in the cloud.

Symmetric encryption



Asymmetric encryption

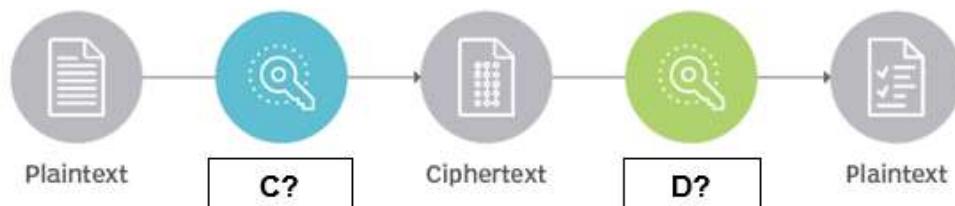


Figure: Symmetric and Asymmetric Encryption process

Identify the missing security keys A, B, C and D in the Figure titled Symmetric and Asymmetric encryption process.

Answer

- A. Secret Key Encryption (1 Mark)
- B. Secret Key Decryption (1 Mark)
- C. Public Key Encryption (1 Mark)
- D. Public Key Decryption (1 Mark)

38. Question

Match the following with respect to cloud security mechanism with their description and examples:

Cloud Security Mechanism (A)	Description (B)	Examples (C)
Symmetric Algorithms	Use a pair of keys: a public key for encryption and a private key for decryption.	Using a Google account to log in to various third-party services.
Asymmetric Algorithms	Allows a user to log in once and gain access to multiple applications	Logging into a corporate network and gaining access to email, internal applications
Federated Identity Management	Use the same key for both encryption and decryption.	RSA (Rivest-Shamir-Adleman)
Single Sign-On	A system that enables users to use a single digital identity across multiple systems or organizations.	AES (Advanced Encryption Standard)

Answer

- A1 – B3 – C4 (1 Mark)
- A2 – B1 – C3 (1 Mark)
- A3 – B4 – C1 (1 Mark)
- A4 – B2 – C2 (1 Mark)

39. Question

Which concept involves verifying the identity of a user based on their biometric data, such as fingerprints or facial recognition?

- a) Two-Factor Authentication
- b) Multi-Factor Authentication
- c) Single Sign-On
- d) Biometric Authentication

Answer

- d) Biometric Authentication (1 Mark)

40. Question

Which protocol is commonly used for identity and access management in cloud environments?

- a) HTTP
- b) SMTP
- c) SAML
- d) FTP

Answer

- c) SAML (1 Mark)

41. Question

In a cloud-based CRM system, Shared Database, Shared Schema allows multiple businesses to share the same database with data distinguished by tenant IDs, optimizing cost and resource use. Shared Database, Separate Schema provides each business with its own schema within a shared database for better isolation and security. For maximum isolation and compliance, Separate Databases assigns each business a dedicated database, enhancing security but increasing management complexity and costs.

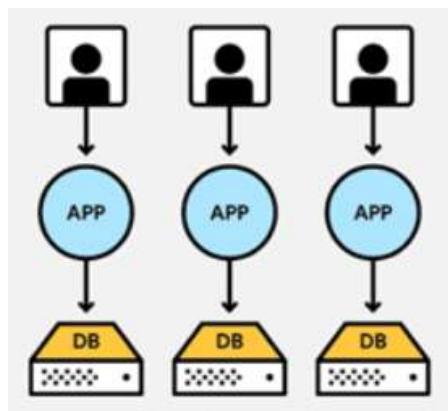


Figure. Single Tenant Architecture

With reference to the Figure titled Single Tenant Architecture. Design the Multi-Tenant Architecture by using the components of 3 users, 3 databases and 1 app.

Answer

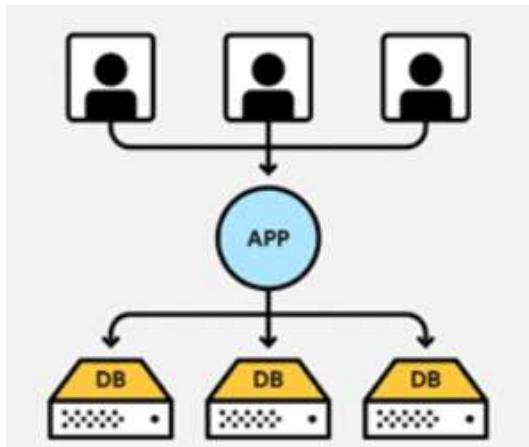
Creation of 3 Users (1 Mark)

Creation of 3 databases (1 Mark)

Creation of 1 app (1 Mark)

Connection between components (1 Mark)

Sample Architecture:



42. Question

Match the following with respect to cloud security mechanism with their description and examples:

Cloud Security Mechanism (A)	Description (B)	Examples (C)
Symmetric Algorithms	Use a pair of keys: a public key for encryption and a private key for decryption.	Using a Google account to log in to various third-party services.
Asymmetric Algorithms	Allows a user to log in once and gain access to multiple applications	Logging into a corporate network and gaining access to email, internal applications
Federated Identity Management	Use the same key for both encryption and decryption.	RSA (Rivest-Shamir-Adleman)
Single Sign-On	A system that enables users to use a single digital identity across multiple systems or organizations.	AES (Advanced Encryption Standard)

Answer

A1 – B3 – C4 (1 Mark)

A2 – B1 – C3 (1 Mark)

A3 – B4 – C1 (1 Mark)

A4 – B2 – C2 (1 Mark)

43. Question

What does the term “encryption key management” refer to in cloud security?

- a) The process of backing up encryption keys
- b) The process of generating and distributing encryption keys
- c) The process of decrypting encrypted data
- d) The process of securing data during transmission

Answer

- b) The process of generating and distributing encryption keys (1 Mark)

44. Question

Which of the following is a common method for establishing identity in cloud services?

- a) IP Address
- b) Password
- c) Device Type
- d) Data Usage

Answer

- b) Password (1 Mark)

45. Question

In cloud computing, symmetric encryption is used for fast and efficient data encryption of large files at rest, such as user documents stored in cloud storage, using the same key for both encryption and decryption. Asymmetric encryption is used for secure key exchange and authentication, such as encrypting data or communication with a public key, which can only be decrypted by the corresponding private key, ensuring secure access to cloud services. This combination ensures both the efficiency and security of data transactions in the cloud.

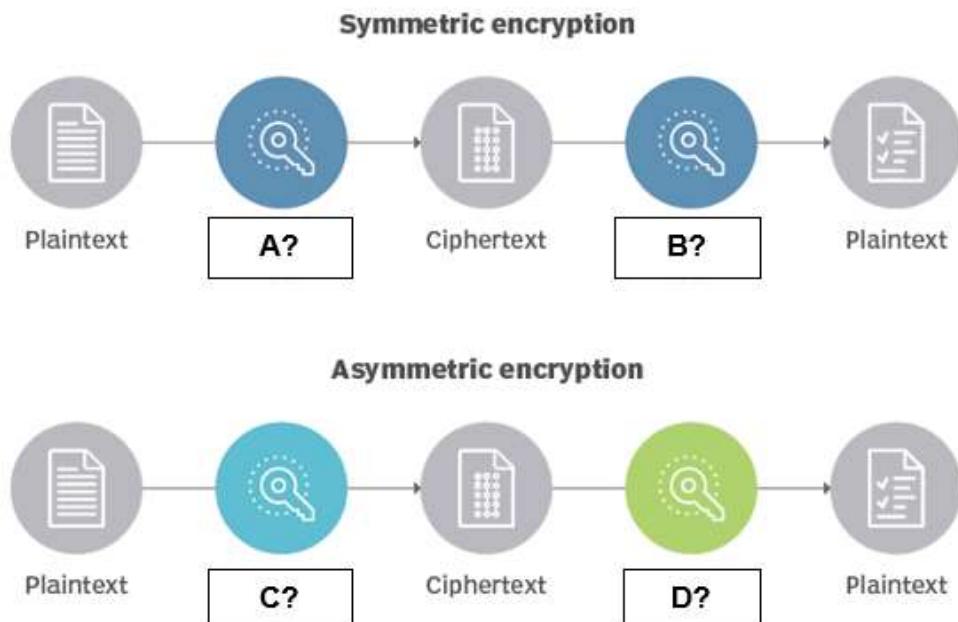


Figure: Symmetric and Asymmetric Encryption process

Identify the missing security keys A, B, C and D in the Figure titled Symmetric and Asymmetric encryption process.

Answer

- A. Secret Key Encryption (1 Mark)
- B. Secret Key Decryption (1 Mark)
- C. Public Key Encryption (1 Mark)
- D. Public Key Decryption (1 Mark)

46. Question

Which method is commonly used to verify the integrity of data transmitted over the internet?

- a) Encryption
- b) Hashing
- c) Compression
- d) Tokenization

Answer

- b) Hashing (1 Mark)

47. Question

Which of the following is NOT a type of cloud storage service?

- a) Block Storage
- b) File Storage
- c) Object Storage
- d) Tape Storage

Answer

- d) Tape Storage (1 Mark)

48. Question

A healthcare provider encrypts patient records before uploading them to a cloud storage service, ensuring that only authorized personnel can access sensitive information. During data transmission, encryption protocols protect the records from interception by unauthorized users. This layered security helps the organization comply with regulations like HIPAA while safeguarding patient privacy.

Predict the whether the given statements below are Correct or Incorrect with respect to Cloud Encryption process.

- 1. Encryption transforms data into a secure format that can only be read by someone with the correct decryption key.
- 2. Not all cloud service providers automatically encrypt data; it often depends on the specific service and configuration chosen by the user.
- 3. Users can encrypt data before uploading it to the cloud, ensuring that it remains protected even if the cloud provider is compromised.
- 4. Many cloud services provide user-friendly encryption options, making it accessible for users without extensive technical knowledge.

Answer

- 1. Correct (1 Mark)
- 2. Incorrect (1 Mark)
- 3. Correct (1 Mark)
- 4. Incorrect (1 Mark)

49. Question

Predict the component of Docker Engine is responsible for building Docker images from Docker files.

- a) Docker CLI
- b) Docker Daemon
- c) Docker Registry
- d) Docker Compose

Answer

- a) Docker CLI (1 Mark)

50. Question

In a cloud-based microservices architecture, Docker Images encapsulate different services like the user interface and database, Docker Containers run these services in isolation, and Docker Compose coordinates their deployment and scaling. For instance, an e-commerce platform uses Docker to deploy and manage its front-end, back-end, and database services, ensuring consistent environments and seamless updates across cloud instances.

Identify the statements given below whether it is advantage or disadvantage with respect to the operations of Docker Cloud.

- 1. Docker containers are lightweight and start quickly compared to virtual machines, leading to more efficient resource utilization and faster deployment times.
- 2. Some legacy applications or services may encounter compatibility issues when containerized, requiring modifications to work effectively within Docker.
- 3. Docker allows easy scaling of applications by replicating containers or deploying them across a cluster, enabling quick adaptation to varying loads and demands.

Answer

- 1. Advantage (1 Mark)

2. Disadvantage (1 Mark)
3. Advantage (1 Mark)

51. Question

Identify the role of Docker in cloud computing.

- a) A container management system
- b) A virtual machine
- c) A source code repository
- d) A continuous integration tool

Answer

- a) A container management system (1 Mark)

52. Question

Select the appropriate option for the Assertion and Reason Statements given below:

Assertion: Docker containers enhance cloud deployment efficiency by providing consistent environments across different platforms.

Reason: Docker's containerization allows for uniform configuration, which facilitates automated scaling and orchestration in cloud environments.

- a) Both Assertion and Reason are True, and the Reason is the correct explanation for the Assertion.
- b) Both Assertion and Reason are True, but the Reason is not the correct explanation for the Assertion.
- c) The Assertion is True, but the Reason is False.
- d) The Assertion is False, but the Reason is True.
- e) Both Assertion and Reason are False.

Answer

- a) Both Assertion and Reason are True, and the Reason is the correct explanation for the Assertion. (2 Marks)

53. Question

Docker Cloud can automatically scale a web service to handle a sudden spike in traffic by deploying additional containers, ensuring smooth and uninterrupted user access. It also facilitates seamless updates by rolling out new versions of the application without downtime.-

Identify the missing components A, B, C and D in the Figure entitled "Working of Docker Cloud"

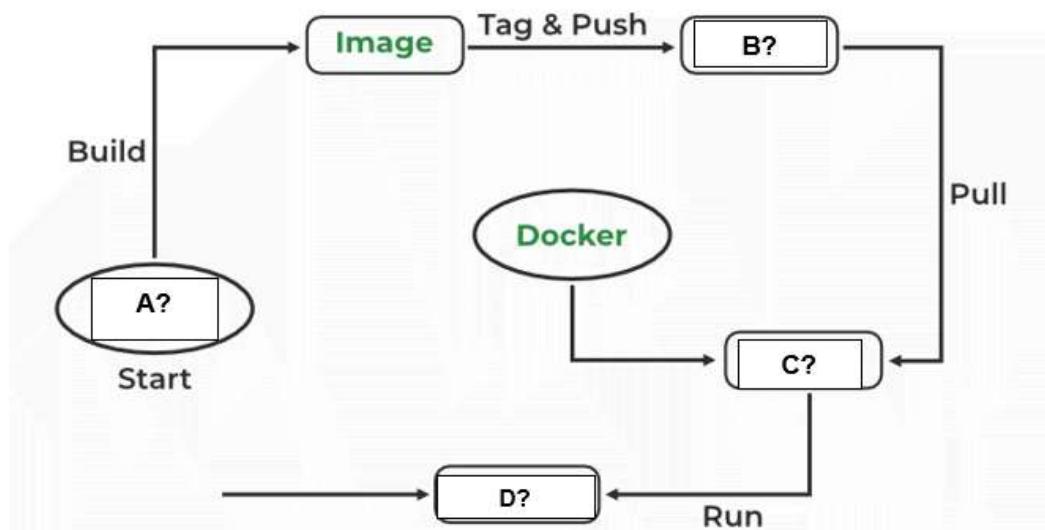


Figure: Working of Docker Cloud

Answer

- A. Source Code (1 Mark)
- B. Registry (1 Mark)
- C. Image (1 Mark)

54. Question

- How do you mount a volume in a Docker container?
- a) Use the -v option with the docker run command
 - b) Use the docker volume create command
 - c) Use the docker mount command
 - d) Use the docker attach command

Answer

- a) Use the -v option with the docker run command (1 Mark)

55. Question

Predict the command is used to create a new Docker image.

- a) Docker build
- b) Docker pull
- c) Docker run
- d) Docker commit

Answer

- a) Docker build (1 Mark)

56. Question

Docker streamlines the deployment of a microservices-based application by encapsulating each service in its own container, which can be efficiently scaled and managed across cloud instances. This approach ensures rapid deployment and consistent performance regardless of the underlying cloud infrastructure.

Predict the whether the given statements below is Valid or Invalid statements in terms of Docker.

- 1. Docker containers cannot be used to run multiple applications simultaneously.
- 2. Docker images are read-only and contain all the dependencies required to run an application.
- 3. Docker volumes are temporary storage and are deleted when the container stops.
- 4. Docker containers are lightweight and can be easily moved between different environments.
- 5. Docker Compose allows you to define and manage multi-container applications with a single configuration file.

Answer

- 1. Invalid (1 Mark)
- 2. Valid (1 Mark)
- 3. Invalid (1 Mark)
- 4. Valid (1 Mark)
- 5. Valid (1 Mark)

57. Question

In a cloud-based microservices architecture, Docker Images encapsulate different services like the user interface and database, Docker Containers run these services in isolation, and Docker Compose coordinates their deployment and scaling. For instance, an e-commerce platform uses Docker to deploy and manage its front-end, back-end, and database services, ensuring consistent environments and seamless updates across cloud instances.

Match the following:

Docker Component (A)	Description (B)	Example (C)
Docker Engine	Read-only templates used to create containers.	Defines a custom image with Python and Flask for a web service.
Docker Image	Native clustering and orchestration for managing a Docker cluster.	Orchestrates a frontend, backend, and database for a cloud-based app.
Docker Containers	Core runtime that manages containers and images.	An image containing a Node.js app for deployment on Azure.

Docker Component (A)	Description (B)	Example (C)
Docker File	Tool for defining and running multi-container Docker applications.	Automatically scales and load-balances microservices on Google Cloud.
Docker Compose	Script for building Docker Images, defining environment and dependencies.	Running a container for a Redis cache alongside a web app.
Docker Swarm	Executable instances of Docker Images, running isolated processes.	Manages container lifecycle for a web application on AWS EC2.

Answer

- A1 – B3 – C6 (1 Mark)
- A2 – B1 – C3 (1 Mark)
- A3 – B6 – C5 (1 Mark)
- A4 – B5 – C1 (1 Mark)
- A5 – B4 – C2 (1 Mark)
- A6 – B2 – C4 (1 Mark)

58. Question

Identify the primary benefit of using Docker in cloud computing.

- a) Hardware virtualization
- b) Increased server complexity
- c) Simplified deployment and scalability
- d) Reduction in network bandwidth

Answer

- c) Simplified deployment and scalability (1 Mark)

59. Question

Find out that Which of the following best describes 'continuous integration'?

- a) Deploying code every hour
- b) Merging code changes into a shared repository frequently
- c) Building software once a week
- d) Testing software after deployment

Answer

- b) Merging code changes into a shared repository frequently - 1 mark

60. Question

It is a straightforward text file containing a collection of commands or procedures. These commands and guidelines we run act on the base image configured to create a new Docker image

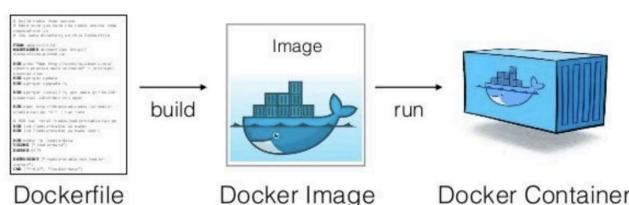


Figure - Docker

Write a simple docker file for bitsathy.html,using docker file command :

a Simple web app served by httpd

1. _____ httpd:2.4

2. _____ AUTHOR =xxx@gmail.com
3. _____ VERSION=0.1
4. _____ bitsathy.html htdocs / bitsathy.html

Answer

Each point carries 1Mark

1. FROM httpd:2.4
2. LABEL AUTHOR =xxx@gmail.com
3. LABEL VERSION=0.1
4. COPY bitsathy.html htdocs / bitsathy.html