Started on	Sunday, 29 October 2023, 8:01 PM
State	Finished
Completed on	Sunday, 29 October 2023, 8:45 PM
Time taken	43 mins 36 secs
Grade	**89.00** out of 100.00

Question **I**

Correct

Mark 4.00 out of 4.00

Which of the statements below is incorrect about Docker?

- ○ a.   Docker container is created from running the dockerfile. ✔
- ○ b.   You can package an application and its dependencies into a single, immutable artifact that is called an image.
- ○ c.   Docker is a portable runtime application environment.
- ○ d.   You can run different application versions with different dependencies simultaneously.
- ○ e.   After you create a container image, it can go anywhere that Docker is supported.

The correct answer is:
Docker container is created from running the dockerfile.

Question 2

Correct

Mark 4.00 out of 4.00

What is the main function of version control systems:

- ○ a.   To make a file tree.
- ○ b.   Enable the team to change the source code over time.
- ○ c.   Debug the code and minimize the disruption.
- ○ d.   Provide the database which tracks the change of the code.
- ◉ e.   Track and manage the software code evolution. ✔

The correct answer is:
Track and manage the software code evolution.

Question 3

Correct

Mark 4.00 out of 4.00

What is the most VCS tools in use today?

Select one:

- ○ a.   Docker.
- ◉ b.   Git. ✔
- ○ c.   Google Cloud.
- ○ d.   Virtual Computer
- ○ e.   Kubernetes.

The correct answer is:
Git.

Question 4

Correct

Mark 4.00 out of 4.00

What is the primary benefit of the VCS systems:

- ⦿ a. Allow us to branch and merging whenever there is a conflict. ✔
- ○ b. Allow us to do real-time collaboration.
- ○ c. Allow us to detect the bug in the code.
- ○ d. Allow us to resolve the fix the code.
- ○ e. Allow us to pull and push codes to the repositories.

The correct answer is:
Allow us to branch and merging whenever there is a conflict.

Question 5

Correct

Mark 4.00 out of 4.00

What is traceability in the VCS means:

- ○ a. Enable software developer members to resolve the conflict when it exists.
- ⦿ b. Enable us to track every alteration made to the software and establish a connection with project management and bug-tracking tools like Jira. ✔
- ○ c. Enable us to integrate with code review tools.
- ○ d. Enable us to create and merge any branches of the code.
- ○ e. Enable software developers to work on the same project simultaneously.

The correct answer is:
Enable us to track every alteration made to the software and establish a connection with project management and bug-tracking tools like Jira.

Question 6

Correct

Mark 4.00 out of 4.00

How does virtualization work?

- a. Migrating applications from the old system into a newer one (e.g., an old computer into an upgraded one).
- ● b. Create one or more independent machines where each machine can behave like an independent computer that can ✔ handle independent tasks.
- c. Optimizing resources in the current system (e.g., disk fragmentation).
- d. Putting all servers (e.g., mail server, web server) into separate physical servers.
- e. Splitting tasks to a distributed resource (e.g., hard disk, RAM in other CPUs).

The correct answer is:
Create one or more independent machines where each machine can behave like an independent computer that can handle independent tasks.

Question 7

Correct

Mark 4.00 out of 4.00

Which one of the following statements is correct about a Virtual Machine or a Container:

- a. Container uses a form of operating system (OS) virtualisation.
- ● b. Container does not need to include a guest OS in every instance. ✔
- c. Containers enable microservice architectures.
- d. Container allows developers to improve the CPU and memory utilization of physical machines.
- e. Container virtualizes physical hardware.

The correct answers are:
Container uses a form of operating system (OS) virtualisation.,

Container does not need to include a guest OS in every instance. ,

Container allows developers to improve the CPU and memory utilization of physical machines. ,

Containers enable microservice architectures.

These are the IT resources that must be delivered in the cloud computing, except:

○ a.   Storage applications.

○ b.   Applications installed in the cloud servers.

○ c.   Database.

◉ d.   Physical storage of data on local servers. ✔

○ e.   Compute power.

The correct answer is:
Physical storage of data on local servers.

The location of the IT resources such as: compute power, storage applications, database, and applications are located at:

○ a.   Virtual Machines.

○ b.   Satellite

○ c.   Network.

○ d.   Data Services.
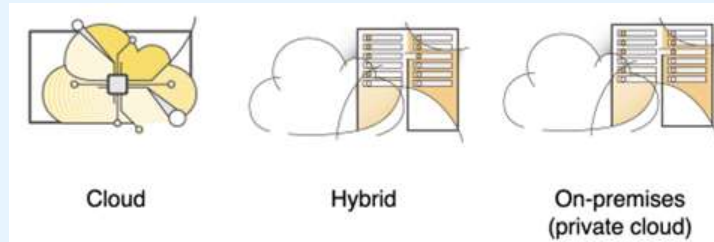
◉ e.   Data Centres ✔

The correct answer is:
Data Centres

Question 10

Incorrect

Mark 0.00 out of 4.00

As pictured below, three main cloud computing deployment models represent the cloud environment: Cloud, Hybrid, and On-premises. Which of the following statements reflects the private cloud model:

Cloud   Hybrid   On-premises
(private cloud)

- a. Applications in the private cloud have either been created in the cloud or have been migrated from an existing infrastructure to take advantage of the benefits of cloud computing.
- b. The Private cloud model enables an organization to extend and grow their infrastructure into the cloud while connecting cloud resources to internal systems.
- c. The application is fully deployed in the private cloud, and all parts of the application run in the private cloud. ✘
- d. In a private cloud, the applications can be built on low-level infrastructure pieces, or they can use higher-level services that provide abstraction from the management, architecting, and scaling requirements of core infrastructure.
- e. The private cloud model can also be defined as deploying resources using virtualization and resource management tools.

The correct answers are:
The Private cloud model enables an organization to extend and grow their infrastructure into the cloud while connecting cloud resources to internal systems. ,

The private cloud model can also be defined as deploying resources using virtualization and resource management tools.

Question 11

Correct

Mark 4.00 out of 4.00

AWS services fall under different categories (e.g., Compute, Networking, Database, and Storage), and each category contains one or more services. Which one of these statements is not correct :

- ○ a.   Amazon DynamoDB service is part of the Database services category.
- ○ b.   Amazon S3 service is part of the Storage services category.
- ○ c.   Amazon EC2 service is part of the Compute services category.
- ○ d.   Amazon VPC service is part of the Networking services category.
- ● e.   Amazon ECS service is part of the Database services category. ✔

The correct answer is:
Amazon ECS service is part of the Database services category.

Question 12

Correct

Mark 4.00 out of 4.00

What are the essential components of Amazon S3:

- ○ a.   storage, objects, and keys.
- ○ b.   buckets, objects, and services.
- ○ c.   repositories, objects, and services.
- ● d.   buckets, objects, and keys. ✔
- ○ e.   storage, relationship, and values.

The correct answer is: buckets, objects, and keys.

Question 13

Correct

Mark 4.00 out of 4.00

Which of the following statements describes the data lake

- a. A data lake is part of the Amazon S3 use cases, which offers a robust disaster recovery (DR)W solution.
- b. A data lake is created in Amazon s3, a centralized repository that allows you to store all your structured and unstructured data at any scale. ✔
- c. A data lake is used to temporarily stores and protect critical data, applications, and IT systems running in the AWS Cloud.
- d. A data lake store is dedicated to store static content such as images, videos, and music.
- e. A data lake is used explicitly for hosting a static website.

The correct answer is:
A data lake is created in Amazon s3, a centralized repository that allows you to store all your structured and unstructured data at any scale.

Question 14

Correct

Mark 4.00 out of 4.00

Find the term for the following definitions:

Read–only template that is used to create writeable containers	Container image ⌄	✔
Plain text file that provides instructions to create a container image	Dockerfile ⌄	✔
The runnable instance of an image.	Container ⌄	✔

The correct answer is:
Read–only template that is used to create writeable containers → Container image,

Plain text file that provides instructions to create a container image → Dockerfile,

The runnable instance of an image. → Container

Find the term for the following definitions:

A fully managed, cloud-based Docker image registry that makes it easy for you to store, manage, and deploy Docker container images.	AmazonElastic Container Registry (Amazon ECR ⌄ ✔
A highly scalable, highly performing container orchestration service that supports Docker containers.	Amazon Elastic Container Service (Amazon ECS ⌄ ✔
You can use the open-source container management platform to deploy and manage containerized applications at scale. It manages clusters of EC2 instances and runs containers on those instances with deployment, maintenance, and scaling processes.	Amazon Elastic Kubernetes Service (Amazon EK ⌄ ✔

The correct answer is:

A fully managed, cloud-based Docker image registry that makes it easy for you to store, manage, and deploy Docker container images. → AmazonElastic Container Registry (Amazon ECR),

A highly scalable, highly performing container orchestration service that supports Docker containers. → Amazon Elastic Container Service (Amazon ECS),

You can use the open-source container management platform to deploy and manage containerized applications at scale. It manages clusters of EC2 instances and runs containers on those instances with deployment, maintenance, and scaling processes. → Amazon Elastic Kubernetes Service (Amazon EKS)

The DOM (Document Object Model) does not provide the ability for JavaScript to modify, organize, and design a website's content.
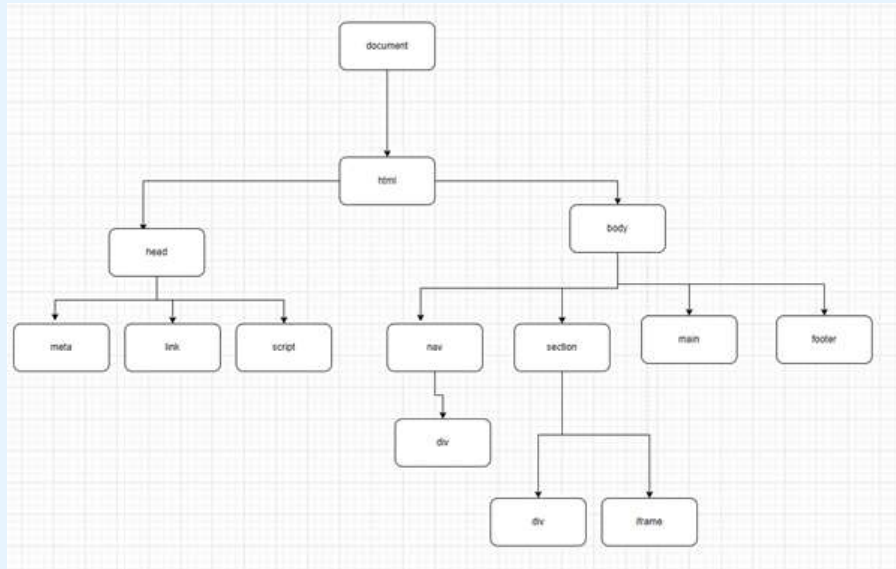
Select one:

○ True

◉ False ✔

The correct answer is 'False'.

Examine the above picture, and put the right text in the blank spot of the following text below:

The above picture shows a DOM tree for a | HTML document | ✖ document. A | DOM tree | ✔ starts from the topmost element, an | HTML element | ✔ , and branches out as per the occurrence and nesting of HTML elements in the document. Whenever an HTML element is found, it creates a DOM node (Node) object from its respective class (constructor function).

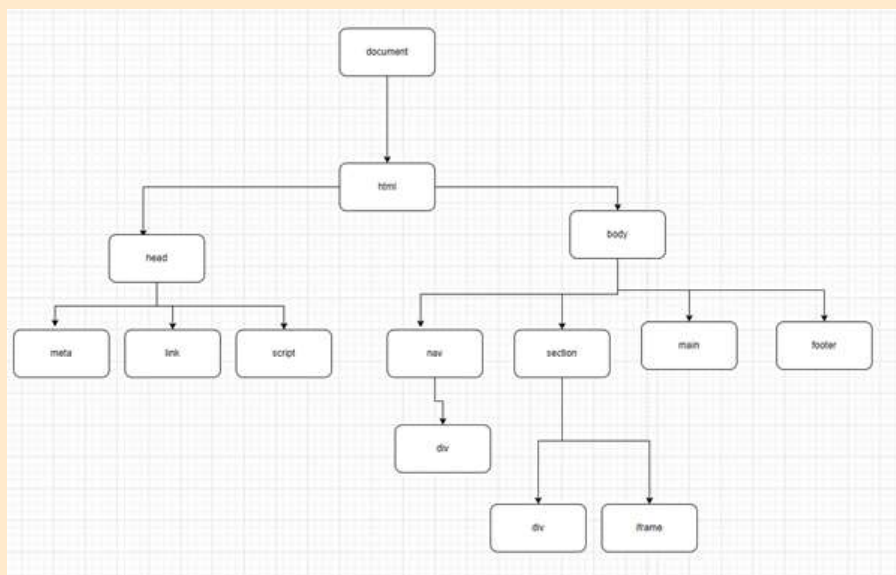| HTML | | DOM elements | Web API |

The correct answer is:

Examine the above picture, and put the right text in the blank spot of the following text below:

The above picture shows a DOM tree for a [HTML] document. A [DOM tree] starts from the topmost element, an [HTML element], and branches out as per the occurrence and nesting of HTML elements in the document. Whenever an HTML element is found, it creates a DOM node (Node) object from its respective class (constructor function).

Question 18

Correct

Mark 2.00 out of 2.00

React.js was created by Amazon.

Select one:

○ True

◉ False ✔

The correct answer is 'False'.

Question 19

Correct

Mark 2.00 out of 2.00

Virtual Dom is React's characteristic that helps to speed up the app development process and offers flexibility.

Select one:

◉ True ✔

○ False

The correct answer is 'True'.

Question 20

Correct

Mark 4.00 out of 4.00

The web page is presented as a Document Object Model (DOM). JavaScript can manipulate the DOM to change the interface into what users want to see. However, as the applications grow, DOM will be hard to manage and lead to an inconsistent interface if we do not control it. In this case, React addresses this issue by introducing a unique method of handling DOM manipulation.

Select one:

◉ True ✔

○ False

The correct answer is 'True'.

Question 21

Incorrect

Mark 0.00 out of 4.00

In which part of the HTML tag should functions be written?

- a. Title
- b. H2 tag
- c. Head
- d. H1 tag
- e. Body ✗

The correct answer is:
Head

Question 22

Correct

Mark 2.00 out of 2.00

Object Relational Mapping (ORM) is a technique used in creating a "bridge" between the application and Integrated Development Environment (**IDE**)

Select one:

- True
- False ✔

The correct answer is 'False'.

Question 23

Correct

Mark 1.00 out of 1.00

Below are the reasons why the software development cost is so expensive before the cloud era, except:

- ○ a. Communication barriers have been eliminated due to the widespread availability of communication channels such ✔
  as Slack, Microsoft Teams, and Facebook Messenger. This has contributed significantly to a smoother development
  process.
- ○ b. Developers can test their code in a similar environment code when deployed.
- ○ c. Developers can provision their own infrastructure.
- ○ d. Developers can turn the infrastructure off when not in use.
- ○ e. Developers can test their code on that infrastructure at scale.

The correct answer is:
Communication barriers have been eliminated due to the widespread availability of communication channels such as Slack,
Microsoft Teams, and Facebook Messenger. This has contributed significantly to a smoother development process.

Question 24

Correct

Mark 1.00 out of 1.00

DevOps (that is, the combination of Development and Operations) is a combination of cultural philosophies, practices, and tools.
DevOps is about removing the barrier between development and operations teams and getting them to communicate with each
other. What are the correct practices in DevOps:

- ○ a. Infrastructure as code and automate everything. ✔
- ○ b. Microservice architecture, Continuous integration and continuous delivery (CI/CD), Management integration
  architecture.
- ○ c. Code sharing and notification system.
- ○ d. Automate everything and Code Sharing.
- ○ e. Automatic compiling and Code Monitoring.

The correct answer is:
Infrastructure as code and automate everything.

Question 25

Incorrect

Mark 0.00 out of 1.00

The database is a critical part of web applications due to the following reasons, except:

- ○ a. Security Improvement.
- ○ b. Data Storage. A database is a central repository for storing data
- ○ c. Scalability.
- ○ d. Performance Improvement.
- ◉ e. Consistency ✖

The correct answer is:
Performance Improvement.

Question 26

Correct

Mark 1.00 out of 1.00

Which of the following is the reason we use Sequelize:

- ○ a. Lightweight: Easy to parse and transmit data.
- ○ b. Scalability.
- ○ c. Flexible data model.
- ◉ d. Supports many different dialects of SQL ✔
- ○ e. Support indexing, making it fast and efficient for querying and retrieving data.

The correct answer is:
Supports many different dialects of SQL

These are the important features of Node.js, except:

- a. Asynchronous.
- b. No Buffering.
- c. Single threaded.
- d. client-side scripting ✔
- e. Event driven

The correct answer is:
client-side scripting

Frontend and backend are two terms used to describe the two main parts of a website or web application. The frontend is the part that users see and interact with, while the backend is the part that users don't see but is essential for the website to function.

The front end is responsible for a website or web application's user interface (UI) ✔ . This includes the HTML, CSS, and JavaScript that comprise the website's design, layout, and functionality. Frontend developers use these languages to create interactive and visually appealing websites that users can easily use.

The backend is responsible for the data and logic ✔ of a website or web application. This includes the database ✘ that stores and processes data and the business logic determining how the website or web application works. Backend developers use languages like Java, Python, or PHP to create the backend of a website or web application.

| server-side code | client-side code | | design |

event-driven   efficiency

The correct answer is:
Frontend and backend are two terms used to describe the two main parts of a website or web application. The frontend is the part that users see and interact with, while the backend is the part that users don't see but is essential for the website to function.

The front end is responsible for a website or web application's [user interface (UI)]. This includes the HTML, CSS, and JavaScript that comprise the website's design, layout, and functionality. Frontend developers use these languages to create interactive and visually appealing websites that users can easily use.

The backend is responsible for the [data and logic] of a website or web application. This includes the [server-side code] that stores and processes data and the business logic determining how the website or web application works. Backend developers use languages like Java, Python, or PHP to create the backend of a website or web application.

API stands for [application programming interface] ✔ , a set of definitions and protocols for building and integrating [application software] ✔ .

APIs let your product or service [communicate] ✔ with other products and services without having to know how they're implemented. This can [simplify] ✔ app development, saving time and money. When designing new tools and products—or managing existing ones—APIs give you flexibility; simplify design, administration, and use; and provide opportunities for innovation.

APIs are sometimes considered contracts, with documentation representing an [agreement] ✔ between parties: If party 1 sends a remote request structured a particular way, this is how party 2's software will respond.

| flexibility |

| software development |

| application procedure interface |

| enhance |

| implement | | programming language |

The correct answer is:

API stands for [application programming interface], a set of definitions and protocols for building and integrating [application software].

APIs let your product or service [communicate] with other products and services without having to know how they're implemented. This can [simplify] app development, saving time and money. When designing new tools and products—or managing existing ones—APIs give you flexibility; simplify design, administration, and use; and provide opportunities for innovation.

APIs are sometimes considered contracts, with documentation representing an [agreement] between parties: If party 1 sends a remote request structured a particular way, this is how party 2's software will respond.

A proxy server is a server that acts as an intermediary between a client and a server. When a client requests a resource from a server, the proxy server forwards the request to the server and then returns the response to the client.

Proxy servers can be used for a variety of **purposes.**

In this questions, find the match between definitions and terms:

Proxy servers can be used to hide the client's real IP address from the server. This can be useful for protecting privacy or for bypassing geo-blocking.	Privacy ⌄ ✔
Proxy servers can be used to distribute traffic across multiple servers. This can help to improve performance and reliability.	Load balancing ⌄ ✔
Proxy servers can be used to cache frequently accessed resources. This can improve performance by reducing the amount of traffic that needs to be sent to the original server.	Performance ⌄ ✔
Proxy servers can be used to filter traffic and block malicious content. This can help to protect the client's computer from malware and other threats.	Security ⌄ ✔

The correct answer is:

Proxy servers can be used to hide the client's real IP address from the server. This can be useful for protecting privacy or for bypassing geo-blocking. → Privacy,

Proxy servers can be used to distribute traffic across multiple servers. This can help to improve performance and reliability. → Load balancing,

Proxy servers can be used to cache frequently accessed resources. This can improve performance by reducing the amount of traffic that needs to be sent to the original server. → Performance,

Proxy servers can be used to filter traffic and block malicious content. This can help to protect the client's computer from malware and other threats. → Security

Question 31

Correct

Mark 2.00 out of 2.00

NGINX is not a web server.

Select one:

○ True

◉ False ✔

The correct answer is 'False'.

Question 32

Correct

Mark 2.00 out of 2.00

NGINX can be used to proxy requests to another server.

Select one:

◉ True ✔

○ False

The correct answer is 'True'.

Jump to... ⌄