Started on	Wednesday, 13 January 2021, 6:00 PM
State	Finished
Completed on	Wednesday, 13 January 2021, 6:20 PM
Time taken	19 mins 39 secs
Marks	8.80/10.00
Grade	**8.80** out of 10.00 (**88**%)

Question **1**
Correct
Mark 0.40 out of 0.40

Related to users access and permissions for infrastructure security, confidentiality enforces:

- ◉ encryption ✔

- ○ usage of password vaults

- ○ two factor authentication

- ○ saving data only in private clouds

Your answer is correct.

The correct answer is:
encryption

Question **2**

Correct

Mark 0.40 out of 0.40

Which are the main cloud deployment models?

Select one or more:

☑ Private ✔

☑ Public ✔

☑ Community ✔

☑ Hybrid ✔

Your answer is correct.

The correct answers are:
Public,

Private,

Community,

Hybrid

Question **3**

Correct

Mark 0.40 out of 0.40

What are containers useful for?

☑ creating similar environments ✔

☑ quickly provisioning dependencies locally ✔

☑ keeping computer clean ✔

☐ keeping dependencies isolated from the application

Your answer is correct.

The correct answers are:
creating similar environments,

quickly provisioning dependencies locally,

keeping computer clean

Question **4**

Correct

Mark 0.40 out of 0.40

Which of the following represent types of load balancers?

☑ TCP/UDP ✔

☑ HTTP ✔

☑ DNS ✔

☐ NAT

Your answer is correct.

The correct answers are:
HTTP,

TCP/UDP,

DNS

Question **5**

Correct

Mark 0.40 out of 0.40

Which of the following is not an application security process/technique?

○ input validation

○ encryption

◉ runtime checking ✔

○ authentication

○ authorization

Your answer is correct.

The correct answer is:
runtime checking

Question **6**

Correct

Mark 0.40 out of 0.40

Why would be concerned with the API design in the context of the cloud?

- ☑ Because SaaS products, which are growing in popularity, usually offer APIs ✔
- ☐ Because cloud systems work best with REST APIs
- ☑ Because the microservices architecture is adopted more frequently ✔

Your answer is correct.

The correct answers are:
Because SaaS products, which are growing in popularity, usually offer APIs,

Because the microservices architecture is adopted more frequently

Question **7**

Correct

Mark 0.40 out of 0.40

Monitoring of the virtual host is useful to ensure:

- ☐ knowing your current price to pay
- ☐ knowing the size of the database
- ☑ if provider respects contracts (SLA) ✔
- ☑ knowing when to scale (up/down, in/out) ✔

Your answer is correct.

The correct answers are:
if provider respects contracts (SLA),

knowing when to scale (up/down, in/out)

Question **8**

Correct

Mark 0.40 out of 0.40

Packet mirroring in cloud network can be useful for:

- ☐ boosting traffic performance
- ☑ security analysis   ✔
- ☑ anomaly detection   ✔
- ☑ bug testing   ✔

Your answer is correct.

The correct answers are:
security analysis,

bug testing,

anomaly detection

Question **9**

Correct

Mark 0.40 out of 0.40

OpenID Connect is a(n):

- ◯ SSO protocol
- ◯ Authorization protocol built on top of OAuth 2.0
- ◯ Inter-service communication protocol
- ◉ Authentication protocol built on top of OAuth 2.0   ✔

Your answer is correct.

The correct answer is:
Authentication protocol built on top of OAuth 2.0

Question **10**

Partially correct

Mark 0.27 out of 0.40

Among the techniques for achieving high availability are:

- ☐ real time operating system

- ☐ floating/elastic IP

- ☑ multi availability zones ✔

- ☑ multi region ✔

Your answer is partially correct.

You have correctly selected 2.
The correct answers are:
multi region,

multi availability zones,

floating/elastic IP

Question **11**

Correct

Mark 0.40 out of 0.40

Which are two effective measures to improve infrastructure security?

- ☑ Reduce the attack surface as much as possible ✔

- ☐ Implement OAuth 2.0

- ☑ MFA for the development team ✔

- ☐ MFA for the users

Your answer is correct.

The correct answers are:
MFA for the development team,

Reduce the attack surface as much as possible

Question **12**

Correct

Mark 0.40 out of 0.40

Which of the following represent HTTP safe methods?

☑ HEAD ✔

☑ GET ✔

☐ PATCH

☐ POST

Your answer is correct.

The correct answers are:
GET,

HEAD

Question **13**

Partially correct

Mark 0.20 out of 0.40

Why would you consider GraphQL instead of REST?

☐ Because it scales better

☑ Because it has built in introspection ✔

☐ Because we can specify which fields to fetch leading to lower data usage

☐ Because it is easier to cache

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
Because we can specify which fields to fetch leading to lower data usage,

Because it has built in introspection

Question 14

Correct

Mark 0.40 out of 0.40

OAuth 2.0 is a(n):

- ○ User management service
- ○ Multi-factor authentication service
- ○ Authentication protocol
- ◉ Authorization protocol   ✔

Your answer is correct.

The correct answer is:
Authorization protocol

Question 15

Partially correct

Mark 0.20 out of 0.40

Which two options of the following could be considered identity providers (IdP)?

- ☐ SaaS services
- ☑ Social platforms such as Facebook and Google   ✔
- ☐ Resource Servers
- ☐ Custom built OpenID Connect systems

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
Social platforms such as Facebook and Google,

Custom built OpenID Connect systems

Question **16**

Correct

Mark 0.40 out of 0.40

The relationship between TLS and SSL is:

○ TLS is built on top of SSL

○ TLS handles communication while SSL handles identity verification

○ They are not related

◉ TLS is the successor of SSL   ✔

Your answer is correct.

The correct answer is:
TLS is the successor of SSL

Question **17**

Correct

Mark 0.40 out of 0.40

Which of the following is the availability formula used in cloud environments?

○ availability=uptime/downtime+uptime

○ availability=uptime/uptime+downtime

◉ availability=uptime/(downtime+uptime)   ✔

○ availability=uptime/downtime

Your answer is correct.

The correct answer is:
availability=uptime/(downtime+uptime)

Question **18**

Partially correct

Mark 0.13 out of 0.40

Virtual CPUs might be:

☑ logical core   ✔

☐ first thread of each core

☐ timeshares of real CPU core

☐ physical core

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
timeshares of real CPU core,

physical core,

logical core

Question **19**

Correct

Mark 0.40 out of 0.40

When can a service be considered serverless?

☑ When the service can scale down to 0   ✔

☑ When you pay only for what you use   ✔

☑ When you don't have to setup any infrastructure   ✔

☑ When you don't have to provision capacity   ✔

Your answer is correct.

The correct answers are:
When you don't have to setup any infrastructure,

When you don't have to provision capacity,

When you pay only for what you use,

When the service can scale down to 0

Question **20**

Correct

Mark 0.40 out of 0.40

A resilient system is one that is:

- ☑ predictable ✔
- ☐ self contained
- ☐ self managed
- ☑ self healing ✔
- ☑ adaptive ✔

Your answer is correct.

The correct answers are:
adaptive,

self healing,

predictable

Question **21**

Partially correct

Mark 0.20 out of 0.40

Asymmetric encryption is suited for:

- ☑ Small payloads ✔
- ☐ Digital signatures (identity verification)
- ☐ High-performance compute
- ☐ Large payloads

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
Small payloads,

Digital signatures (identity verification)

Question **22**

Correct

Mark 0.40 out of 0.40

In which case is a streaming service more suitable than a queue?

○ When we want to reduce the load on the clients

◉ When we might want to replay previous messages/events ✔

○ When we don't want to store messages

○ When it's enough if the message is processed by at least one client

Your answer is correct.

The correct answer is:
When we might want to replay previous messages/events

Question **23**

Correct

Mark 0.40 out of 0.40

Which is the optimal approach for the least privilege principle when admin rights are required?

○ Create a dedicated admin user used only when needed

○ Enable MFA

○ Relax the security policies when needed

◉ Leverage features that enable just-in-time privileges ✔

Your answer is correct.

The correct answer is:
Leverage features that enable just-in-time privileges

Question **24**

Partially correct

Mark 0.20 out of 0.40

Why are serverless databases usually NoSQL?

☐ Due to licensing limitations of SQL databases

☑ Because NoSQL databases usually scale better ✔

☐ Because NoSQL databases are simpler (e.g. no ACID)

☐ Because data is non-relational in most cases anyway

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
Because NoSQL databases usually scale better, Because NoSQL databases are simpler (e.g. no ACID)

Question **25**

Correct

Mark 0.40 out of 0.40

Which is the correct order complexity wise in decreasing order for NoSQL database models?

○ document, columnar, key-value, graph

○ graph, document, columnar, key-value

◉ graph, columnar, document, key-value ✔

○ key-value, document, columnar, graph

Your answer is correct.

The correct answer is:
graph, columnar, document, key-value

◄ Announcements

Jump to...

Resource Cleanup ►

Started on	Wednesday, 13 January 2021, 6:00 PM
State	Finished
Completed on	Wednesday, 13 January 2021, 6:19 PM
Time taken	19 mins 14 secs
Marks	6.67/10.00
Grade	**6.67** out of 10.00 (**67**%)

Question **1**

Correct

Mark 0.40 out of 0.40

The role of the hypervisor is to:

- ☑ translate and limit instructions   ✔

- ☐ manage users

- ☑ create and manage guest machines   ✔

- ☐ encrypt disk

Your answer is correct.

The correct answers are:
create and manage guest machines,

translate and limit instructions

Question **2**

Incorrect

Mark 0.00 out of 0.40

In a cloud environment horizontal scaling means that:

- ☑ it can scale infinitely ✔
- ☐ it is compatible with any application architecture
- ☐ it requires load balancers
- ☑ it modifies existing VMs ✖

Your answer is incorrect.

The correct answers are:
it can scale infinitely,

it requires load balancers

Question **3**

Partially correct

Mark 0.20 out of 0.40

Which are two effective measures to improve infrastructure security?

- ☑ MFA for the users ✖
- ☐ Reduce the attack surface as much as possible
- ☑ MFA for the development team ✔
- ☑ Implement OAuth 2.0 ✖

Your answer is partially correct.

You have selected too many options.
The correct answers are:
MFA for the development team,

Reduce the attack surface as much as possible

Question **4**

Correct

Mark 0.40 out of 0.40

Which of the following is not an Integration Service for cloud?

○ API Gateways

○ publish/subscribe services

◉ shared memory　　　　　　　　　　　　　　　　　　　　　　　　　✔

○ workflow services

○ queues

Your answer is correct.

The correct answer is:
shared memory

Question **5**

Correct

Mark 0.40 out of 0.40

Why would be concerned with the API design in the context of the cloud?

☐ Because cloud systems work best with REST APIs

☑ Because the microservices architecture is adopted more frequently　　　　✔

☑ Because SaaS products, which are growing in popularity, usually offer APIs　　✔

Your answer is correct.

The correct answers are:
Because SaaS products, which are growing in popularity, usually offer APIs,

Because the microservices architecture is adopted more frequently

Question **6**

Correct

Mark 0.40 out of 0.40

When choosing cloud services, the price plan can be:

- ☑ Tiered ✔
- ☐ Transaction-based
- ☑ Fixed ✔
- ☑ Dynamic ✔

Your answer is correct.

The correct answers are:
Fixed,

Tiered,

Dynamic

Question **7**

Partially correct

Mark 0.27 out of 0.40

What characterizes resource-oriented APIs?

Select one or more:
- ☑ Fits better for public APIs ✔
- ☐ The behavior of the system is primarily driven by the data
- ☑ Usually leads to a concise set of operations ✔
- ☐ Usually leads to strong coupling

Your answer is partially correct.

You have correctly selected 2.
The correct answers are:
Usually leads to a concise set of operations,

The behavior of the system is primarily driven by the data,

Fits better for public APIs

Question **8**

Correct

Mark 0.40 out of 0.40

Which of the following is the availability formula used in cloud environments?

- ◉ availability=uptime/(downtime+uptime)   ✔

- ○ availability=uptime/downtime+uptime

- ○ availability=uptime/downtime

- ○ availability=uptime/uptime+downtime

Your answer is correct.

The correct answer is:
availability=uptime/(downtime+uptime)

Question **9**

Partially correct

Mark 0.13 out of 0.40

Which of the following components are not managed by the cloud provider in a Infrastructure as a Service model?

- ☑ Application   ✔

- ☐ Operating System

- ☑ Storage   ✘

- ☑ Data   ✔

- ☐ Networking

Your answer is partially correct.

You have correctly selected 2.
The correct answers are:
Application,

Data,

Operating System

Question **10**

Correct

Mark 0.40 out of 0.40

A resilient system is one that is:

☑ self healing   ✔

☐ self managed

☑ adaptive   ✔

☐ self contained

☑ predictable   ✔

Your answer is correct.

The correct answers are:
adaptive,

self healing,

predictable

Question **11**

Incorrect

Mark 0.00 out of 0.40

What is the shared responsibility model?

○ A framework for finding out the optimal security approach

◉ A model describing the responsibility within a development team   ✖

○ A model describing the responsibility of the cloud provider and the customer with regards to security

○ A requirement for the ISO 27001 standard

Your answer is incorrect.

The correct answer is:
A model describing the responsibility of the cloud provider and the customer with regards to security

Question **12**

Partially correct

Mark 0.20 out of 0.40

Which of the following are HTTP idempotent methods?

☑ POST ✖

☑ DELETE ✔

☐ HEAD

☑ PUT ✔

☑ GET ✔

Your answer is partially correct.

You have correctly selected 3.
The correct answers are:
GET,

HEAD,

DELETE,

PUT

Question **13**

Correct

Mark 0.40 out of 0.40

Why is loose coupling beneficial?

◉ Facilitates better maintainability and extensibility ✔

◯ Usually makes the system more scalable

◯ Improves network performance

◯ We should prefer strong coupling instead

Your answer is correct.

The correct answer is:
Facilitates better maintainability and extensibility

Question **14**

Incorrect

Mark 0.00 out of 0.40

The 12 Factor App is a(n)

○ Methodology for building scalable and maintainable software

○ Authentication application

◉ Framework for building microservices ✖

Your answer is incorrect.

The correct answer is:
Methodology for building scalable and maintainable software

Question **15**

Correct

Mark 0.40 out of 0.40

Which of the following are protocols used by the internet?

☑ OSPF ✔

☑ BGP ✔

☑ IP ✔

☑ RIP ✔

Your answer is correct.

The correct answers are:
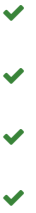IP,

BGP,

RIP,

OSPF

Question **16**

Correct

Mark 0.40 out of 0.40

When can a service be considered serverless?

☑ When you don't have to provision capacity   ✔

☑ When you don't have to setup any infrastructure   ✔

☑ When the service can scale down to 0   ✔

☑ When you pay only for what you use   ✔

Your answer is correct.

The correct answers are:
When you don't have to setup any infrastructure,

When you don't have to provision capacity,

When you pay only for what you use,

When the service can scale down to 0

Question **17**

Correct

Mark 0.40 out of 0.40

What are CDNs good for?

☑ optimize costs   ✔

☑ improve security   ✔

☐ reduce resources

☑ improve load times   ✔

Your answer is correct.

The correct answers are:
improve load times,

optimize costs,

improve security

Question **18**

Partially correct

Mark 0.27 out of 0.40

Which of the following characteristics is improved by designing and building applications in cloud environments?

☑ Scalability   ✓

☑ Security   ✓
Security
Cost Efficiency
Availability
Productivity

☑ Control   ✗

☑ Availability   ✓

Your answer is partially correct.

You have selected too many options.
The correct answers are: Scalability,
Security
Security
Cost Efficiency
Availability
Productivity,

Availability

Question **19**

Correct

Mark 0.40 out of 0.40

Why would you consider GraphQL instead of REST?

☑ Because it has built in introspection   ✓

☐ Because it is easier to cache

☐ Because it scales better

☑ Because we can specify which fields to fetch leading to lower data usage   ✓

Your answer is correct.

The correct answers are:
Because we can specify which fields to fetch leading to lower data usage,

Because it has built in introspection

Question **20**

Correct

Mark 0.40 out of 0.40

Infrastructure security is concerned with:

- ○ application user

- ◉ cloud user   ✔

- ○ operating system user

- ○ database user

Your answer is correct.

The correct answer is:
cloud user

Question **21**

Incorrect

Mark 0.00 out of 0.40

Which is the correct order complexity wise in decreasing order for NoSQL database models?

- ◉ graph, document, columnar, key-value   ✘

- ○ key-value, document, columnar, graph

- ○ graph, columnar, document, key-value

- ○ document, columnar, key-value, graph

Your answer is incorrect.

The correct answer is:
graph, columnar, document, key-value

Question **22**

Incorrect

Mark 0.00 out of 0.40

From the kubernetes terminology, we can say that a pod:

☑ can span multiple nodes   ✖

☐ is managed by the operating system

☐ runs one or more containers

☐ is the smallest deployment unit

Your answer is incorrect.

The correct answers are:
is the smallest deployment unit,

runs one or more containers

Question **23**

Incorrect

Mark 0.00 out of 0.40

Which are some common concerns when working with queues?

☑ The message is lost if there are no consumers   ✖

☐ Messages might be out of order

☐ The same message might be delivered multiple times

☑ The consumers might get overloaded   ✖

Your answer is incorrect.

The correct answers are:
Messages might be out of order,

The same message might be delivered multiple times

Question **24**

Correct

Mark 0.40 out of 0.40

Which is the optimal approach for the least privilege principle when admin rights are required?

- ⦿ Leverage features that enable just-in-time privileges ✔
- ○ Relax the security policies when needed
- ○ Enable MFA
- ○ Create a dedicated admin user used only when needed

Your answer is correct.

The correct answer is:
Leverage features that enable just-in-time privileges

Question **25**

Correct

Mark 0.40 out of 0.40

Why are serverless databases usually NoSQL?

- ☑ Because NoSQL databases usually scale better ✔
- ☑ Because NoSQL databases are simpler (e.g. no ACID) ✔
- ☐ Due to licensing limitations of SQL databases
- ☐ Because data is non-relational in most cases anyway

Your answer is correct.

The correct answers are:
Because NoSQL databases usually scale better, Because NoSQL databases are simpler (e.g. no ACID)

◄ Announcements

Jump to...

Resource Cleanup ►

Started on	Wednesday, 13 January 2021, 6:00 PM
State	Finished
Completed on	Wednesday, 13 January 2021, 6:18 PM
Time taken	18 mins 31 secs
Marks	8.27/10.00
Grade	**8.27** out of 10.00 (**83**%)

Question **1**

Correct

Mark 0.40 out of 0.40

Which of the following is the availability formula used in cloud environments?

○ availability=uptime/downtime

◉ availability=uptime/(downtime+uptime) ✔

○ availability=uptime/uptime+downtime

○ availability=uptime/downtime+uptime

Your answer is correct.

The correct answer is:
availability=uptime/(downtime+uptime)

Question **2**

Correct

Mark 0.40 out of 0.40

Which of the following are protocols used by the internet?

☑ IP ✔

☑ OSPF ✔

☑ BGP ✔

☑ RIP ✔

Your answer is correct.

The correct answers are:
IP,

BGP,

RIP,

OSPF

Question **3**

Correct

Mark 0.40 out of 0.40

When choosing cloud services, the price plan can be:

☑ Tiered   ✔

☑ Fixed   ✔

☑ Dynamic   ✔

☐ Transaction-based

Your answer is correct.

The correct answers are:
Fixed,

Tiered,

Dynamic

Question **4**

Correct

Mark 0.40 out of 0.40

Cloud network security can be enforced by:

☐ domain name servers

☑ firewalls   ✔

☑ network access control lists   ✔

☐ gateways

Your answer is correct.

The correct answers are:
firewalls,

network access control lists

Question **5**

Correct

Mark 0.40 out of 0.40

Which are the main cloud deployment models?

Select one or more:

☑ Private ✔

☑ Public ✔

☑ Hybrid ✔

☑ Community ✔

Your answer is correct.

The correct answers are:
Public,

Private,

Community,

Hybrid

Question **6**

Incorrect

Mark 0.00 out of 0.40

Which are some of the concerns when adopting a serverless architecture?

☑ Your system might not be able to handle big workloads ✘

☑ You might not have enough control ✔

☐ It will likely be more expensive than IaaS

☐ Your system might overload other dependencies

Your answer is incorrect.

The correct answers are:
You might not have enough control,

Your system might overload other dependencies

Question **7**

Correct

Mark 0.40 out of 0.40

In a cloud environment horizontal scaling means that:

☑ it requires load balancers   ✔

☐ it is compatible with any application architecture

☐ it modifies existing VMs

☑ it can scale infinitely   ✔

Your answer is correct.

The correct answers are:
it can scale infinitely,

it requires load balancers

Question **8**

Partially correct

Mark 0.27 out of 0.40

Which of the following represent possible type of consistency in cloud database models?

☐ tunable consistency

☐ no consistency

☑ strong consistency   ✔

☑ eventual consistency   ✔

Your answer is partially correct.

You have correctly selected 2.
The correct answers are:
strong consistency,

eventual consistency,

tunable consistency

Question **9**

Correct

Mark 0.40 out of 0.40

Which are the 2 main API styles?

- ☐ Graph
- ☑ Procedure Oriented   ✔
- ☐ REST
- ☑ Entity Oriented   ✔

Your answer is correct.

The correct answers are:
Procedure Oriented,

Entity Oriented

Question **10**

Correct

Mark 0.40 out of 0.40

Which of the following represent HTTP safe methods?

- ☐ POST
- ☑ HEAD   ✔
- ☐ PATCH
- ☑ GET   ✔

Your answer is correct.

The correct answers are:
GET,

HEAD

Question **11**

Correct

Mark 0.40 out of 0.40

Which are two effective measures to improve infrastructure security?

☑   MFA for the users   ✖

☑   MFA for the development team   ✔

☑   Implement OAuth 2.0   ✖

☑   Reduce the attack surface as much as possible   ✔

Your answer is correct.

The correct answers are:
MFA for the development team,

Reduce the attack surface as much as possible

Question **12**

Incorrect

Mark 0.00 out of 0.40

Monitoring of the virtual host is useful to ensure:

☐   if provider respects contracts (SLA)

☑   knowing your current price to pay   ✖

☑   knowing the size of the database   ✖

☑   knowing when to scale (up/down, in/out)   ✔

Your answer is incorrect.

The correct answers are:
if provider respects contracts (SLA),

knowing when to scale (up/down, in/out)

Question **13**
Correct
Mark 0.40 out of 0.40

Packet mirroring in cloud network can be useful for:

- ☐   boosting traffic performance
- ☑   anomaly detection   ✔
- ☑   security analysis   ✔
- ☑   bug testing   ✔

Your answer is correct.

The correct answers are:
security analysis,

bug testing,

anomaly detection

Question **14**
Correct
Mark 0.40 out of 0.40

In a cloud environment, vertical scalability means that:

- ☑   it doesn't require additional components   ✔
- ☐   it is compatible only with stateless applications
- ☐   it doesn't require restarting the service
- ☑   it might be the only approach for certain components (RDBMS)   ✔

Your answer is correct.

The correct answers are:
it doesn't require additional components,

it might be the only approach for certain components (RDBMS)

Question **15**
Correct
Mark 0.40 out of 0.40

A resilient system is one that is:

☑ predictable   ✔

☑ self healing   ✔

☐ self contained

☑ adaptive   ✔

☐ self managed

Your answer is correct.

The correct answers are:
adaptive,

self healing,

predictable

Question **16**
Correct
Mark 0.40 out of 0.40

Which of the following represent types of load balancers?

☑ HTTP   ✔

☑ TCP/UDP   ✔

☑ DNS   ✔

☐ NAT

Your answer is correct.

The correct answers are:
HTTP,

TCP/UDP,

DNS

Question **17**

Correct

Mark 0.40 out of 0.40

Why is loose coupling beneficial?

○ Usually makes the system more scalable

○ Improves network performance

○ We should prefer strong coupling instead

◉ Facilitates better maintainability and extensibility   ✔

Your answer is correct.

The correct answer is:
Facilitates better maintainability and extensibility

Question **18**

Correct

Mark 0.40 out of 0.40

Which of the following are HTTP idempotent methods?

☐ POST

☑ PUT   ✔

☑ DELETE   ✔

☑ HEAD   ✔

☑ GET   ✔

Your answer is correct.

The correct answers are:
GET,

HEAD,

DELETE,

PUT

Question **19**

Correct

Mark 0.40 out of 0.40

OAuth 2.0 is a(n):

- ⦿ Authorization protocol　　　　　　　　　　　　　　　　　　　✔
- ○ Multi-factor authentication service
- ○ Authentication protocol
- ○ User management service

Your answer is correct.

The correct answer is:
Authorization protocol

Question **20**

Correct

Mark 0.40 out of 0.40

When can a service be considered serverless?

- ☑ When you pay only for what you use　　　　　　　　　　　　　✔
- ☑ When the service can scale down to 0　　　　　　　　　　　　✔
- ☑ When you don't have to setup any infrastructure　　　　　　✔
- ☑ When you don't have to provision capacity　　　　　　　　　✔

Your answer is correct.

The correct answers are:
When you don't have to setup any infrastructure,

When you don't have to provision capacity,

When you pay only for what you use,

When the service can scale down to 0

Question **21**

Incorrect

Mark 0.00 out of 0.40

Which is the correct order for disaster recovery strategies from cheapest to the most expensive?

○   warm standby, hot site, pilot light, backup and restore

◉   backup and restore, warm standby, hot site, pilot light   ✗

○   backup and restore, pilot light, warm standby, hot site

○   warm standby, hot site, backup and restore, pilot light

Your answer is incorrect.

The correct answer is:
backup and restore, pilot light, warm standby, hot site

Question **22**

Partially correct

Mark 0.20 out of 0.40

Asymmetric encryption is suited for:

☐   High-performance compute

☐   Large payloads

☑   Small payloads   ✔

☐   Digital signatures (identity verification)

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
Small payloads,

Digital signatures (identity verification)

Question **23**
Correct
Mark 0.40 out of 0.40

Which is true for a graph database model?

- ☑ nodes contain properties (key-value pairs) ✔
- ☐ relationships can't contain properties
- ☑ contains nodes and relationships ✔
- ☐ relationships are not directed

Your answer is correct.

The correct answers are:
contains nodes and relationships,

nodes contain properties (key-value pairs)

Question **24**
Partially correct
Mark 0.20 out of 0.40

Why are serverless databases usually NoSQL?

- ☑ Because NoSQL databases usually scale better ✔
- ☐ Because NoSQL databases are simpler (e.g. no ACID)
- ☐ Due to licensing limitations of SQL databases
- ☐ Because data is non-relational in most cases anyway

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
Because NoSQL databases usually scale better, Because NoSQL databases are simpler (e.g. no ACID)

Question **25**
Correct
Mark 0.40 out of 0.40

Which is the optimal approach for the least privilege principle when admin rights are required?

○   Create a dedicated admin user used only when needed

○   Enable MFA

○   Relax the security policies when needed

◉   Leverage features that enable just-in-time privileges   ✔

Your answer is correct.

The correct answer is:
Leverage features that enable just-in-time privileges

◄ Announcements

Jump to...

Resource Cleanup ►

Started on	Wednesday, 13 January 2021, 6:00 PM
State	Finished
Completed on	Wednesday, 13 January 2021, 6:19 PM
Time taken	19 mins 24 secs
Marks	8.60/10.00
Grade	**8.60** out of 10.00 (**86**%)

Question **1**
Partially correct
Mark 0.13 out of 0.40

What are containers useful for?

- ☑ keeping dependencies isolated from the application ✖
- ☑ creating similar environments ✔
- ☐ keeping computer clean
- ☑ quickly provisioning dependencies locally ✔

Your answer is partially correct.

You have correctly selected 2.
The correct answers are:
creating similar environments,

quickly provisioning dependencies locally,

keeping computer clean

Question **2**

Correct

Mark 0.40 out of 0.40

When choosing cloud services, the price plan can be:

- ☑ Tiered ✔
- ☐ Transaction-based
- ☑ Fixed ✔
- ☑ Dynamic ✔

Your answer is correct.

The correct answers are:
Fixed,

Tiered,

Dynamic

Question **3**

Partially correct

Mark 0.27 out of 0.40

Which of the following represent possible type of consistency in cloud database models?

- ☐ tunable consistency
- ☐ no consistency
- ☑ strong consistency ✔
- ☑ eventual consistency ✔

Your answer is partially correct.

You have correctly selected 2.
The correct answers are:
strong consistency,

eventual consistency,

tunable consistency

Question **4**

Correct

Mark 0.40 out of 0.40

OpenID Connect is a(n):

○ Inter-service communication protocol

○ SSO protocol

◉ Authentication protocol built on top of OAuth 2.0   ✔

○ Authorization protocol built on top of OAuth 2.0

Your answer is correct.

The correct answer is:
Authentication protocol built on top of OAuth 2.0

Question **5**

Correct

Mark 0.40 out of 0.40

Which two options of the following could be considered identity providers (IdP)?

☐ Resource Servers

☑ Custom built OpenID Connect systems   ✔

☑ Social platforms such as Facebook and Google   ✔

☐ SaaS services

Your answer is correct.

The correct answers are:
Social platforms such as Facebook and Google,

Custom built OpenID Connect systems

Question **6**
Correct
Mark 0.40 out of 0.40

Which of the following is not an application security process/technique?

○ encryption

○ authorization

◉ runtime checking ✔

○ authentication

○ input validation

Your answer is correct.

The correct answer is:
runtime checking

Question **7**
Correct
Mark 0.40 out of 0.40

In a cloud environment, vertical scalability means that:

☐ it is compatible only with stateless applications

☑ it might be the only approach for certain components (RDBMS) ✔

☐ it doesn't require restarting the service

☑ it doesn't require additional components ✔

Your answer is correct.

The correct answers are:
it doesn't require additional components,

it might be the only approach for certain components (RDBMS)

Question **8**

Correct

Mark 0.40 out of 0.40

The role of the hypervisor is to:

- [ ] encrypt disk
- [x] translate and limit instructions ✓
- [ ] manage users
- [x] create and manage guest machines ✓

Your answer is correct.

The correct answers are:
create and manage guest machines,

translate and limit instructions

Question **9**

Correct

Mark 0.40 out of 0.40

The 12 Factor App is a(n)

- ( ) Authentication application
- (●) Methodology for building scalable and maintainable software ✓
- ( ) Framework for building microservices

Your answer is correct.

The correct answer is:
Methodology for building scalable and maintainable software

Question **10**

Partially correct

Mark 0.20 out of 0.40

Infrastructure as a Service is best used for:

☐ when ultra-high performance is a must

☐ when you don't want to be in control

☑ first migration stages (lift and shift) ✔

☐ when you need vendor lock-in

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
first migration stages (lift and shift),

when ultra-high performance is a must

Question **11**

Correct

Mark 0.40 out of 0.40

When can a service be considered serverless?

☑ When you don't have to setup any infrastructure ✔

☑ When you don't have to provision capacity ✔

☑ When you pay only for what you use ✔

☑ When the service can scale down to 0 ✔

Your answer is correct.

The correct answers are:
When you don't have to setup any infrastructure,

When you don't have to provision capacity,

When you pay only for what you use,

When the service can scale down to 0

Question **12**

Partially correct

Mark 0.20 out of 0.40

Which are the 2 main API styles?

- ☑ REST   ✘
- ☐ Graph
- ☑ Entity Oriented   ✔
- ☐ Procedure Oriented

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
Procedure Oriented,

Entity Oriented

Question **13**

Correct

Mark 0.40 out of 0.40

Why would you consider GraphQL instead of REST?

- ☑ Because we can specify which fields to fetch leading to lower data usage   ✔
- ☐ Because it is easier to cache
- ☑ Because it has built in introspection   ✔
- ☐ Because it scales better

Your answer is correct.

The correct answers are:
Because we can specify which fields to fetch leading to lower data usage,

Because it has built in introspection

Question **14**

Correct

Mark 0.40 out of 0.40

The CAP theorem referres to:

○ Capacity, Availability, Performance

◉ Consistency, Availability, Partition Tolerance ✔

○ Credibility, Accessibility, Partition Tolerance

○ Credibility, Accessibility, Performance

Your answer is correct.

The correct answer is:
Consistency, Availability, Partition Tolerance

Question **15**

Partially correct

Mark 0.20 out of 0.40

Which are two effective measures to improve infrastructure security?

☑ MFA for the users ✖

☐ MFA for the development team

☐ Implement OAuth 2.0

☑ Reduce the attack surface as much as possible ✔

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
MFA for the development team,

Reduce the attack surface as much as possible

Question **16**

Correct

Mark 0.40 out of 0.40

What makes a system highly available?

☑ data ✔

☑ network ✔

☑ hardware ✔

☑ software ✔

Your answer is correct.

The correct answers are:
hardware,

software,

data,

network

Question **17**

Correct

Mark 0.40 out of 0.40

Which of the following are protocols used by the internet?

☑ IP ✔

☑ BGP ✔

☑ RIP ✔

☑ OSPF ✔

Your answer is correct.

The correct answers are:
IP,

BGP,

RIP,

OSPF

Question **18**

Correct

Mark 0.40 out of 0.40

What is the shared responsibility model?

○ A framework for finding out the optimal security approach

○ A model describing the responsibility within a development team

◉ A model describing the responsibility of the cloud provider and the customer with regards to security   ✔

○ A requirement for the ISO 27001 standard

Your answer is correct.

The correct answer is:
A model describing the responsibility of the cloud provider and the customer with regards to security

Question **19**

Incorrect

Mark 0.00 out of 0.40

Which of the following approaches has the ideal coupling?

◉ Separated services communicating through REST interfaces   ✘

○ Separated services communicating through RPC

○ Services deployed together as a monolith

○ Separated services communicating through a message queue

Your answer is incorrect.

The correct answer is:
Separated services communicating through a message queue

Question **20**

Correct

Mark 0.40 out of 0.40

A resilient system is one that is:

☐ self managed

☑ predictable ✔

☐ self contained

☑ adaptive ✔

☑ self healing ✔

Your answer is correct.

The correct answers are:
adaptive,

self healing,

predictable

Question **21**

Correct

Mark 0.40 out of 0.40

Why are serverless databases usually NoSQL?

☐ Due to licensing limitations of SQL databases

☐ Because data is non-relational in most cases anyway

☑ Because NoSQL databases usually scale better ✔

☑ Because NoSQL databases are simpler (e.g. no ACID) ✔

Your answer is correct.

The correct answers are:
Because NoSQL databases usually scale better, Because NoSQL databases are simpler (e.g. no ACID)

Question **22**

Correct

Mark 0.40 out of 0.40

In which case is a streaming service more suitable than a queue?

○ When it's enough if the message is processed by at least one client

○ When we don't want to store messages

○ When we want to reduce the load on the clients

◉ When we might want to replay previous messages/events   ✔

Your answer is correct.

The correct answer is:
When we might want to replay previous messages/events

Question **23**

Correct

Mark 0.40 out of 0.40

Which is the correct order for disaster recovery strategies from cheapest to the most expensive?

◉ backup and restore, pilot light, warm standby, hot site   ✔

○ warm standby, hot site, backup and restore, pilot light

○ backup and restore, warm standby, hot site, pilot light

○ warm standby, hot site, pilot light, backup and restore

Your answer is correct.

The correct answer is:
backup and restore, pilot light, warm standby, hot site

Question **24**

Correct

Mark 0.40 out of 0.40

A key-value database offers:

- ☐ ultra low but not consistent latency
- ☑ ultra low and consistent latency ✔
- ☐ high but not consistent throughput
- ☑ high and consistent throughput ✔

Your answer is correct.

The correct answers are:
ultra low and consistent latency,

high and consistent throughput

Question **25**

Correct

Mark 0.40 out of 0.40

Which are some common concerns when working with queues?

- ☑ The same message might be delivered multiple times ✔
- ☐ The message is lost if there are no consumers
- ☐ The consumers might get overloaded
- ☑ Messages might be out of order ✔

Your answer is correct.

The correct answers are:
Messages might be out of order,

The same message might be delivered multiple times

◄ Announcements

Jump to...

Resource Cleanup ►

Home / My courses / Cloud Applications Architecture / Course / Exam

Started on	Wednesday, 13 January 2021, 6:00 PM
State	Finished
Completed on	Wednesday, 13 January 2021, 6:20 PM
Time taken	20 mins
Marks	6.00/10.00
Grade	**6.00** out of 10.00 (**60**%)

Question **1**

Correct

Mark 0.40 out of 0.40

Among the techniques for achieving high availability are:

☑ multi availability zones ✔

☑ multi region ✔

☐ real time operating system

☑ floating/elastic IP ✔

Your answer is correct.

The correct answers are:
multi region,

multi availability zones,

floating/elastic IP

Question **2**

Incorrect

Mark 0.00 out of 0.40

Monitoring of the virtual host is useful to ensure:

- ☐ knowing the size of the database
- ☑ knowing when to scale (up/down, in/out) ✔
- ☑ knowing your current price to pay ✖
- ☐ if provider respects contracts (SLA)

Your answer is incorrect.

The correct answers are:
if provider respects contracts (SLA),

knowing when to scale (up/down, in/out)

Question **3**

Correct

Mark 0.40 out of 0.40

Which three options of the following are valid OAuth 2.0 flows?

- ☑ Owner Claim ✖
- ☑ Pass-through Hash ✖
- ☑ Authorization Code with PKCE ✔
- ☑ Authorization Code ✔
- ☑ Resource Owner Password Credentials ✔

Your answer is correct.

The correct answers are:
Authorization Code,

Resource Owner Password Credentials, Authorization Code with PKCE

Question **4**

Correct

Mark 0.40 out of 0.40

Which are the 2 main API styles?

- ☐ REST
- ☑ Entity Oriented ✔
- ☑ Procedure Oriented ✔
- ☐ Graph

Your answer is correct.

The correct answers are:
Procedure Oriented,

Entity Oriented

Question **5**

Correct

Mark 0.40 out of 0.40

Which of the following represent types of load balancers?

- ☑ DNS ✔
- ☑ HTTP ✔
- ☐ NAT
- ☑ TCP/UDP ✔

Your answer is correct.

The correct answers are:
HTTP,

TCP/UDP,

DNS

Question **6**

Not answered

Marked out of 0.40

In a cloud environment horizontal scaling means that:

☐ it is compatible with any application architecture

☐ it modifies existing VMs

☐ it requires load balancers

☐ it can scale infinitely

Your answer is incorrect.

The correct answers are:
it can scale infinitely,

it requires load balancers

Question **7**

Correct

Mark 0.40 out of 0.40

Why is loose coupling beneficial?

○ We should prefer strong coupling instead

◉ Facilitates better maintainability and extensibility ✔

○ Improves network performance

○ Usually makes the system more scalable

Your answer is correct.

The correct answer is:
Facilitates better maintainability and extensibility

Question **8**

Correct

Mark 0.40 out of 0.40

What are CDNs good for?

- ☐ reduce resources
- ☑ optimize costs ✔
- ☑ improve security ✔
- ☑ improve load times ✔

Your answer is correct.

The correct answers are:
improve load times,

optimize costs,

improve security

Question **9**

Partially correct

Mark 0.10 out of 0.40

What makes a system highly available?

- ☐ hardware
- ☐ data
- ☑ network ✔
- ☐ software

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
hardware,

software,

data,

network

Question **10**

Incorrect

Mark 0.00 out of 0.40

The relationship between TLS and SSL is:

○ TLS handles communication while SSL handles identity verification

○ TLS is the successor of SSL

◉ TLS is built on top of SSL   ✖

○ They are not related

Your answer is incorrect.

The correct answer is:
TLS is the successor of SSL

Question **11**

Correct

Mark 0.40 out of 0.40

FaaS stands for:

◉ Functions as a service   ✔

○ Frontend as a service

○ Functionality as a service

Your answer is correct.

The correct answer is:
Functions as a service

Question **12**

Correct

Mark 0.40 out of 0.40

Which of the following represent HTTP safe methods?

- ☑ HEAD ✔
- ☐ PATCH
- ☑ GET ✔
- ☐ POST

Your answer is correct.

The correct answers are:
GET,

HEAD

Question **13**

Correct

Mark 0.40 out of 0.40

Which of the following are protocols used by the internet?

- ☑ BGP ✔
- ☑ IP ✔
- ☑ OSPF ✔
- ☑ RIP ✔

Your answer is correct.

The correct answers are:
IP,

BGP,

RIP,

OSPF

Question **14**

Correct

Mark 0.40 out of 0.40

What are containers useful for?

☐ keeping dependencies isolated from the application

☑ creating similar environments   ✔

☑ quickly provisioning dependencies locally   ✔

☑ keeping computer clean   ✔

Your answer is correct.

The correct answers are:
creating similar environments,

quickly provisioning dependencies locally,

keeping computer clean

Question **15**

Not answered

Marked out of 0.40

How are messages retrieved from queues in comparison to pub/sub systems?

○ The clients pull messages from both types of services

○ The client has the pull the messages from queues while pub/sub pushes the messages to the client

○ The client has the pull the messages from pub/sub while queues push the messages to the client

○ Both types of services push the message to the clients

Your answer is incorrect.

The correct answer is:
The client has the pull the messages from queues while pub/sub pushes the messages to the client

Question **16**

Correct

Mark 0.40 out of 0.40

Which of the following is the availability formula used in cloud environments?

○ availability=uptime/downtime+uptime

○ availability=uptime/uptime+downtime

◉ availability=uptime/(downtime+uptime) ✔

○ availability=uptime/downtime

Your answer is correct.

The correct answer is:
availability=uptime/(downtime+uptime)

Question **17**

Incorrect

Mark 0.00 out of 0.40

The 12 Factor App is a(n)

○ Methodology for building scalable and maintainable software

○ Authentication application

◉ Framework for building microservices ✘

Your answer is incorrect.

The correct answer is:
Methodology for building scalable and maintainable software

Question **18**

Correct

Mark 0.40 out of 0.40

The CAP theorem referres to:

- ⦿ Consistency, Availability, Partition Tolerance ✔
- ○ Capacity, Availability, Performance
- ○ Credibility, Accessibility, Performance
- ○ Credibility, Accessibility, Partition Tolerance

Your answer is correct.

The correct answer is:
Consistency, Availability, Partition Tolerance

Question **19**

Partially correct

Mark 0.30 out of 0.40

Some of the load balancers features are:

- ☑ caching ✔
- ☑ routing based on path ✔
- ☐ health checks
- ☑ port mapping ✔

Your answer is partially correct.

You have correctly selected 3.
The correct answers are:
routing based on path,

health checks,

port mapping,

caching

Question **20**

Partially correct

Mark 0.20 out of 0.40

Why would be concerned with the API design in the context of the cloud?

☑ Because SaaS products, which are growing in popularity, usually offer APIs ✔

☐ Because the microservices architecture is adopted more frequently

☐ Because cloud systems work best with REST APIs

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
Because SaaS products, which are growing in popularity, usually offer APIs,

Because the microservices architecture is adopted more frequently

Question **21**

Correct

Mark 0.40 out of 0.40

Why are serverless databases usually NoSQL?

☐ Because data is non-relational in most cases anyway

☑ Because NoSQL databases usually scale better ✔

☐ Due to licensing limitations of SQL databases

☑ Because NoSQL databases are simpler (e.g. no ACID) ✔

Your answer is correct.

The correct answers are:
Because NoSQL databases usually scale better, Because NoSQL databases are simpler (e.g. no ACID)

Question **22**

Not answered

Marked out of 0.40

From the kubernetes terminology, we can say that a pod:

☐ runs one or more containers

☐ is managed by the operating system

☐ is the smallest deployment unit

☐ can span multiple nodes

Your answer is incorrect.

The correct answers are:
is the smallest deployment unit,

runs one or more containers

Question **23**

Incorrect

Mark 0.00 out of 0.40

Which is the correct order complexity wise in decreasing order for NoSQL database models?

○ document, columnar, key-value, graph

○ graph, columnar, document, key-value

○ graph, document, columnar, key-value

◉ key-value, document, columnar, graph   ✖

Your answer is incorrect.

The correct answer is:
graph, columnar, document, key-value

Question **24**

Partially correct

Mark 0.20 out of 0.40

Which is true for a graph database model?

☐ relationships are not directed

☑ contains nodes and relationships ✔

☐ relationships can't contain properties

☐ nodes contain properties (key-value pairs)

Your answer is partially correct.

You have correctly selected 1.
The correct answers are:
contains nodes and relationships,

nodes contain properties (key-value pairs)

Question **25**

Incorrect

Mark 0.00 out of 0.40

A key-value database offers:

☑ high and consistent throughput ✔

☑ ultra low but not consistent latency ✖

☐ high but not consistent throughput

☐ ultra low and consistent latency

Your answer is incorrect.

The correct answers are:
ultra low and consistent latency,

high and consistent throughput

◄ Announcements

Jump to...

Resource Cleanup ►