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|---------------------|---|
| 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?

- ☐ $\text{availability} = \text{uptime} / \text{downtime} + \text{uptime}$
- ☐ $\text{availability} = \text{uptime} / \text{uptime} + \text{downtime}$
- ☒ $\text{availability} = \text{uptime} / (\text{downtime} + \text{uptime})$
- ☐ $\text{availability} = \text{uptime} / \text{downtime}$



Your answer is correct.

The correct answer is:

$\text{availability} = \text{uptime} / (\text{downtime} + \text{uptime})$

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

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