BCS Practitioner Award in Cloud Infrastructure Architecture

Specimen Paper

Record your surname / last / family name and initials on the answer sheet.

The specimen paper only has 10 questions, which are a mixture of multiple-choice and multiple-response questions – 1 mark is awarded to each question. Multiple choice questions allow only one correct answer to be selected for 1 mark. Multiple response questions require the candidate to select a number of correct responses for 1 mark.

There are no trick questions.

A number of possible answers are given for each question, indicated by either **A B C D or E**. Your answers should be clearly indicated on the answer sheet.

Pass mark is 7/10
Time allowed 15 minutes.

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1   What are **two** characteristics of cloud infrastructure?

   A   Elastic.

   B   Private.

   C   Secure.

   D   On-Demand.

2   What does ISO17789 refer to?

   A   An enterprise reference architecture.

   B   An infrastructure reference architecture.

   C   A cloud computing reference architecture.

   D   A business reference architecture.

3   Which of the following situations would be best suited to use GCP Artifact Registry, Azure Container Registry, or AWS Elastic Container Registry?

   A   Storing your Docker images in a highly available scalable solution that allows them to be easily deployed.

   B   Providing a storage solution for government agency with high strict security requirements.

   C   Storing Docker images for an organisation in a remote location.

   D   Providing a storage solution for an international organisation that covers differing data residency regulations.

4   Cloud Provider and Cloud Subscriber are two distinct roles in which reference model?

   A   Platform as a Service (PaaS).

   B   Cloud Secure Data Lifecycle (CSDL).

   C   Infrastructure as a Service (IaaS).

   D   Open Alliance for Cloud Adoption (OACA).

5   Which of the following are **not** Machine Learning (ML) algorithms?

   Select **two** correct responses.

   A   Decision tree.

   B   Logistic regression.

   C   Dijkstra's algorithm.

   D   Shor's algorithm.

6   A medium-sized organisation based in the Middle East requires a new cloud infrastructure architecture for a data centre.

   Which of the following are the **main** environmental factors the cloud infrastructure architect should consider?

   A   Heat and ventilation.

   B   Humidity and ventilation.

   C   Humidity and power.

   D   Heat and power.

7   According to NIST SP800-125A - "Security Recommendations for Hypervisor Deployment" which **two** of the following are hypervisor baseline functions?

   A   Devices mediation and access control.

   B   Direct Execution of commands from Guest Virtual Machines (VMs).

   C   Guest VM migration.

   D   Virtual Network connectivity.

8   In the design of your company's Business Continuity and Disaster Recovery (BCDR) strategy, it specifies that in a Disaster Recovery situation, your systems must be capable of maintaining data consistency and recovering to a point in time where only half the processing load typically occurs during day-to-day production operations.

   What is this an example of?

   A   Recovery Service Level (RSL).

   B   Recovery Time Objective (RTO).

   C   Recovery Point Objective (RPO).

   D   Disaster Recovery Plan (DRP).

9   Your organisation has deployed a customer sales processing solution in a public cloud service. One of your customers, wanting to manage their supply chain risk, asks for evidence of ISO27001 compliance for your solution.

   How would you go about finding this?

   A   Access artifact via the cloud service's official website or documentation.

   B   Contact the cloud service support and ask for their legal department.

   C   Ask the security architect for the documentation.

   D   Ask your company procurement department for documentation.

10 You have been made aware that an email was accidentally sent to a UK media outlet containing a list of employee medical insurance ID numbers instead of an intended press release. The sender immediately recalled the email, but you can see it had already left your servers.

Do you have to report the incident as a data breach, and if so in what time period?

A No, the email was recalled.

B No, there was no personal data.

C Yes, within 72 hours.

D Yes, within 30 days.

End of Paper

Question	Answer	Rationale	Syllabus Section
1	A and D	Elastic and on-demand are listed under NIST's definition of Cloud computing.	1.1
2	C	ISO 17789:2014 specifies the cloud computing reference architecture (CCRA)	1.2
3	A	AWS, Azure and GCP Registry are examples of managed container image registry services that are secure, scalable, and reliable.	3.1
4	D	From the OACA CRM homepage 'Within this model are two distinct roles: cloud provider and cloud subscriber. For the purposes of this discussion, we will use the NIST SP 500-292 definition "The Cloud Provider and Cloud Consumer share the control of resources in a cloud system."	3.3
5	C and D	Dijkstra's is used in networks to find the shortest path between nodes, and Shor's is a quantum algorithm for finding the prime factors of an integer. Decision tree and Logistic regression are Machine Learning algorithms.	3.5
6	A	A cloud infrastructure architect must carefully consider environmental aspects such as heat dissipation and ventilation to ensure optimal cooling efficiency and prevent hardware performance issues.	4.1
7	A and B	Devices Mediation and Access Control **and** Direct Execution of commands from Guest Virtual Machines are listed in NIST SP800-125A under section 1.1 Hypervisor Baseline Functions.	4.2
8	C	A Recovery Point Objective (RPO) is the maximum targeted period in which data might be lost from an IT service due to a major incident.	4.3
9	A	Compliance to ISO is usually provided via a self-service audit artifact retrieval portal that provides customers with on-demand access to compliance documentation.	4.4

| 10 | C | The UK Data Protection Act (DPA) defines "Personal data" as information relating to a living individual who can be identified, directly or indirectly, in particular by reference to —
 (a) an identifier such as a name, an identification number, location data or an online identifier, or
 (b) one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of the individual. Reporting must be completed within 72 hours of becoming aware of the breach. | 5.1 |