

CAMBRIDGE TECHNICALS LEVEL 3 (2016)

Examiners' report

ΙΤ

05838-05842, 05877

Unit CC January 2023 series

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Introduction

Our examiners' reports are produced to offer constructive feedback on candidates' performance in the examinations. They provide useful guidance for future candidates.

The reports will include a general commentary on candidates' performance, identify technical aspects examined in the questions and highlight good performance and where performance could be improved. The reports will also explain aspects which caused difficulty and why the difficulties arose, whether through a lack of knowledge, poor examination technique, or any other identifiable and explainable reason.

Where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.

A full copy of the question paper and the mark scheme can be downloaded from OCR.

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Unit CC series overview

A similar number of entries for the Cloud Technology test taken in January 2022.

Candidates who did well on this paper generally did the following:	Candidates who did less well on this paper generally did the following:	
 Correctly answered questions for the following teaching content: 1.2 Cloud models 1.3 Types of organisation that would benefit from cloud technology 1.4 Types of organisation that may not benefit from cloud technology 1.5 Organisational roles and responsibilities when using cloud technology 2.1 Similarities and differences between cloud technology and outsourcing 2.4 Business benefits of service models 3.1 Cloud service models 3.4 Technology that make cloud services possible 4.1 Cloud storage devices 4.2 Integration of SaaS with storage 5.2 Cloud readiness assessment 7.1 Impact of cloud adoption on business processes 7.3 Risks. 	 Found the following teaching content challenging: 1.1 Cloud technology characteristics and terms 2.2 Business considerations when implementing cloud services 2.3 How cloud technology enhances business value 3.2 Accountabilities & Responsibilities based on cloud service model 3.3 Organisations' internal skills requirements to support their cloud model 3.4 Technology that make cloud services possible 4.3 Permission levels 4.4 Data deduplication to reduce capacity usage 5.4 Service Level Agreements (SLA) 6.1 Data transference. 	

General comments on the paper

Questions for this computer-based test addressed a breadth of knowledge across the specification learning outcomes. Some learning outcomes were better understood than others. Based on the statistics for the individual items in the cloud technology multiple choice test, candidates overall were most successful answering questions targeting LO1: Understand the characteristics & context of cloud technology and why it is used and LO7: Know about impact, risks, and security issues related to cloud technology. LO4: Understand the features of cloud storage and LO3: Understand the requirements of cloud services, were the hardest to answer.

Learning outcome 1: questions 1-15

This LO requires candidates to understand the characteristics and context of cloud technology and why it is used.

Questions targeting this LO had a positive response, with many candidates achieving the marks on Questions 1, 8, 9, 10, 12 and 13 and few candidates achieving the marks for Questions 7 and 14. In particular, Questions 2 and 3 were challenging for students.

Learning outcome 2: questions 16-26

LO2 requires candidates to understand the business benefits of cloud services.

Candidates did well on Question 18, 24 and 25 but found Questions 19-21 and 23 challenging.

Learning outcome 3: questions 27-47

LO3 requires candidates to understand the requirements of cloud services.

Questions for this learning outcome that presented difficulties for candidates were Questions 28, 29, 34, 36-38, 41-46. For Questions 27, 31 and 47, most candidates achieved the marks.

Learning outcome 4: questions 48-53

LO4 requires candidates to understand the features of cloud storage.

There were six questions which addressed this learning outcome. Responses to Questions 51, 52 and 53 were the least successful.

Learning outcome 5: questions 54-64

This LO requires candidates to understand the deployment requirements for cloud-based services for organisations.

Questions 55-59 and 63 were answered well with Questions 54, 60-62 and 64 being less successful.

Learning outcome 6: questions 65-67

LO6 requires candidates to know the regulatory issues that impact cloud technology.

There were just three questions targeting this learning outcome. Responses to Questions 65 and 66 were often incorrectly answered.

Learning outcome 7: questions 68-70

LO7 requires candidates to know about impact, risks and security issues related to cloud technology.

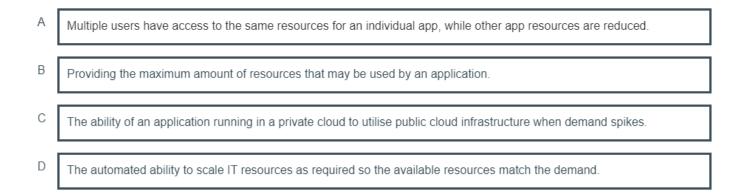
Of the three questions addressing this learning outcome the majority of learners were able to answer correctly.

Appendix 1 Questions

Question 1

Which best describes elasticity?

Select the correct answer.



Question 2

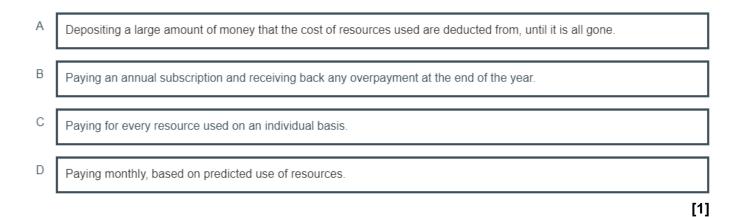
Which best describes automation?

Select the correct answer.

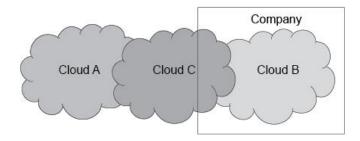
A	Coding routines that enable problems in the cloud infrastructure to be detected.
В	The reduction of human intervention in cloud computing.
С	The use of virtual machine templates to set up and deploy a cloud infrastructure.
D	Using a computer to perform a task normally completed by a human.

Which best describes chargeback?

Select the correct answer.



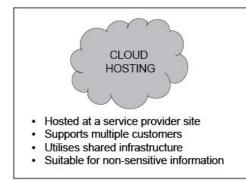
Question 4



Which cloud model is represented by Cloud B?

Select the correct answer.

A	Community
В	Hybrid
С	Private
D	Public
	[1]



Which cloud model is being described?

Select the correct answer.

A	Community
В	Hybrid
С	Private
D	Public

Question 6

В

С

Which statement about a public cloud is correct?

Select the correct answer.

A Used by multiple organisations and typically hosted by multiple cloud vendors.

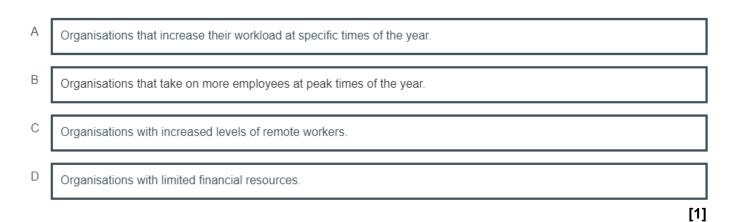
Used by multiple organisations and typically hosted by one cloud vendor.

Used by one organisation and typically hosted by multiple cloud vendors.

D Used by one organisation and typically hosted by one cloud vendor.

Which three types of organisation would benefit from cloud technology?

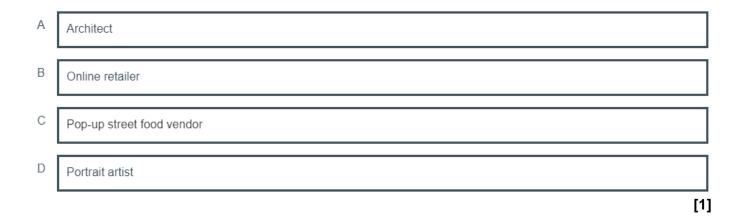
Select three answers.



Question 8

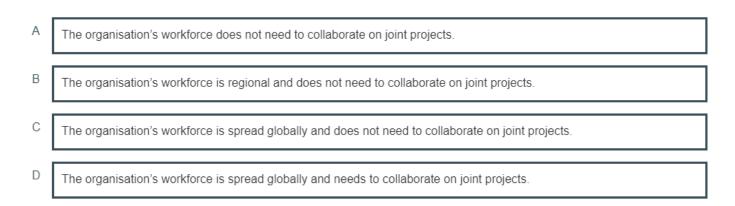
Which one of the following would benefit from cloud technology?

Select the correct answer.



Which of the following is a reason why an organisation would benefit from cloud technology?

Select the correct answer.



Question 10

Which type of organisation may not benefit from cloud technology?

Select the correct answer.

A	Education
В	Marketing agency
С	Military
D	Small start-ups with little capital

Read the statement and select if it is true or false.

A research and development (R&D) organisation may **not** benefit from cloud technology because of the sensitivity of the information it stores.

_		
	ri i	
	ıu	c

False

Question 12

Which of the following is a reason why the health service may not benefit from moving to cloud technology?

Select the correct answer.

А

В

С

A potential for patient data to be disclosed.

Lack of facilities available to duplicate the data during the transition.

The expense of moving data to the cloud.

D

The need to retrain the staff resulting in delays to patient care.

Read the statement and select if it is true or false.

Organisations which have considerable investment in their own traditional IT infrastructures are likely to resist a move to cloud technology.

True

False

[1]

Question 14

Select the statements which describe the responsibilities of vendor management staff.

Select all the statements that apply.

A	Costing the resource allocations.
В	Monitoring and managing cloud resources.
С	Negotiating service-level contracts.
D	Updating service-level contracts.

Which role is responsible for the transition of an organisation to cloud services?

Select the correct answer.

A	Capacity planner
В	Cloud architect
С	Cloud service manager
D	Network operation centre staff

Question 16

Identify the similarities of ownership between utilising cloud technology and outsourcing.

Select all the statements that apply.

А	You do not own the data.
В	You do not own the platforms.
С	You do not own the servers.
D	You do not own the technicians that operate it.

[1]

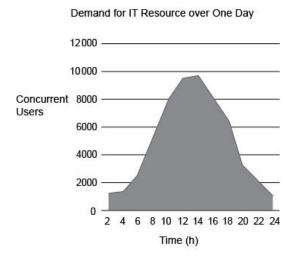
Question 17

Read the statement and select if it is true or false.

The customer should not be able to tell if the company is using outsourcing or cloud technology.

True		
False		

Question 18



The graph shows an organisation's changing demand for an IT resource over one day.

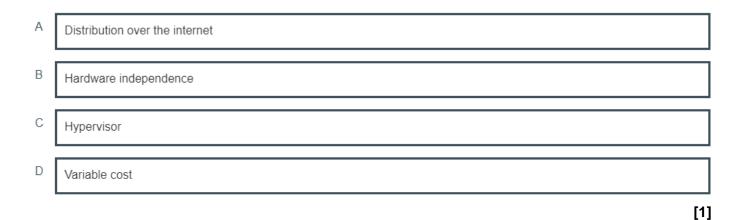
What needs to be considered when implementing a cloud service to support the use of this IT resource?

Select the correct answer.

А	Cloud service portability
В	On demand self-service
С	Scalability
D	Variable cost

The process that translates unique IT hardware into an emulated software-based copy meets which business consideration?

Select the correct answer.



Question 20

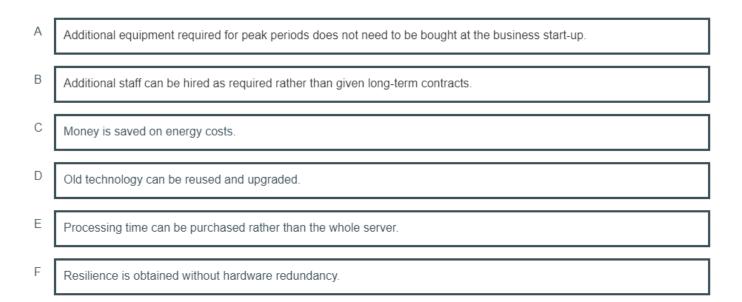
What are the features of cloud technology that allow the time to market for a product to be reduced?

Select all the statements that apply.

A	It allows competitors' applications to be decompiled and rebuilt.
В	It allows prototypes to be rapidly developed.
с	It allows the application to be configured to run on specific hardware, reducing the number of platforms that it needs to be
_	developed for.
D	It allows virtualised test environments to be quickly established.
E	It utilises a standard library of routines decreasing coding time.

Which three statements best describe how upfront capital expenditure can be minimised when moving to cloud services?

Select three answers.

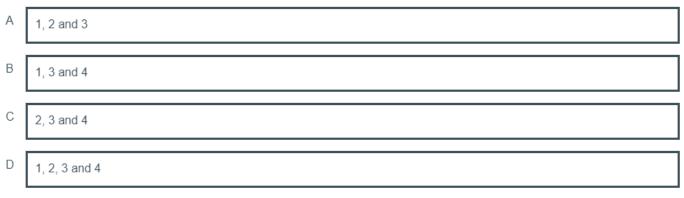


Question 22

The following items have been given as factors that can affect the operating cost of cloud computing.

- 1 Amount of data being stored.
- 2 Number of customers.
- 3 Number of transactions.
- 4 Number of users.

Select the correct answer that shows all the items that affect the operating costs.



Read the statement and select if it is true or false.

One of the ways that cloud technology enhances business value is by giving all its users easy access to all its data.

True

False

D

Question 24

Why is reduced reliance on internal technical skills a benefit for a business moving to cloud services?

Select the correct answer.

A Increased reliance on the need for industry certification of support staff.

B Members of the technical support team can be made redundant.

C Staff can be employed who have specific skills to meet the business needs.

The business can begin to employ apprentices.

[1]

[1]

Question 25

Why is a simplified interface a **benefit** of cloud technology?

Select the correct answer.

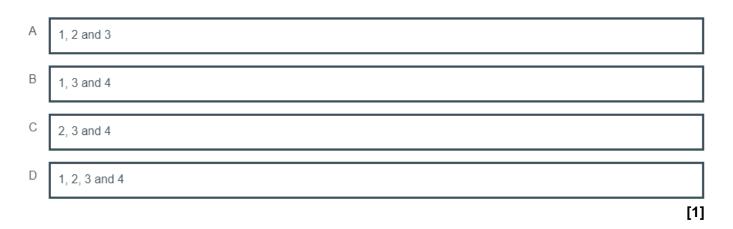
А	It is accessible to all users.
В	It is device independent.
С	It only has the features the organisation thinks they need.
D	Radio buttons and drop down lists can be used.

Question 26

The following statements have been given about user provisioning.

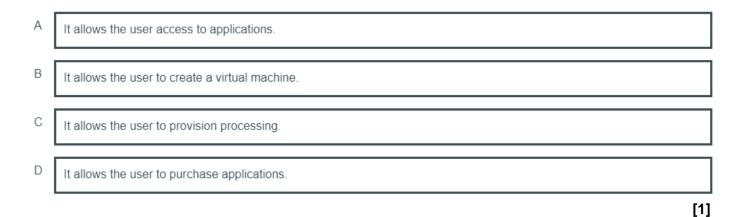
- 1 Permissions for all applications can be made centrally.
- 2 The user experience will be the same across all applications.
- 3 The user only needs to create a single account which works across all applications for the organisation.
- 4 User permissions can be automatically transferred when new applications are released.

Select the correct answer that shows all the advantages of user provisioning.



Which best describes the SaaS cloud service model?

Select the correct answer.



Question 28

Which services are provided by the service provider in the PaaS cloud service model?

Select all the services that apply.

А	Applications
В	Data
С	Networking
D	Storage

The following is a list of services provided as part of the laaS cloud service model.

- 1 Applications
- 2 Data
- 3 Operating system
- 4 Virtualisation

Select the correct answer that shows the services controlled by the customer.

A	1 and 2
В	2 and 3
С	1 and 3
D	3 and 4
	[1]

Question 30

Which is an example of the CaaS cloud service model? Select the correct answer.

 A
 Amazon Web Services

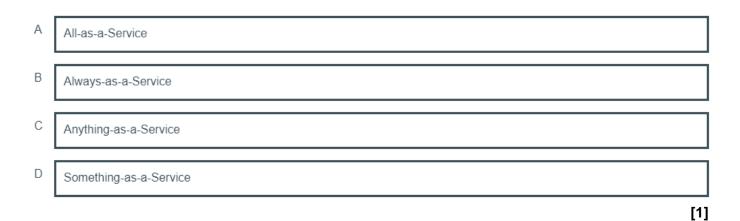
 B
 Force.com

 C
 Microsoft Skype

 D
 Zoho

What does XaaS stand for?

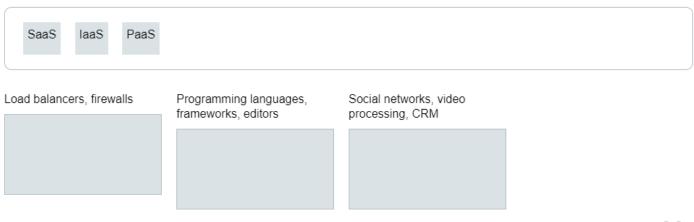
Select the correct answer.



Question 32

Drag the Cloud delivery model from the drag options to the appropriate Service content.

Options



[1]

Question 33

Who is responsible for making updates to cloud-based servers within an IaaS environment?

Select the correct answer.

А	Cloud vendor
В	Consultant
С	Customer
D	Organisation

Question 34

Read the sentence about PaaS and fill in the four numbers representing the missing words in the sentence below.

- 1 applications
- 2 cloud vendor
- 3 data
- 4 developer
- 5 infrastructure
- 6 organisation
- 7 platform
- 8 systems

In a PaaS environment, the	provides the	
	to develop on and the	is
responsible for developing their		
		[1]

The following is a list of responsibilities within the SaaS environment:

- 1 Managing the data.
- 2 Securing the application.
- 3 Security permissions.
- 4 The supporting infrastructure.

Select the correct answer that shows all the responsibilities of the cloud vendor.

A	1 and 2
В	2 and 3
С	1 and 3
D	2 and 4
'	[1]

Question 36

Drag each option (A-F) below into the drop zone to indicate whether it is the responsibility of the cloud vendor or the organisation in the laaS cloud service model.

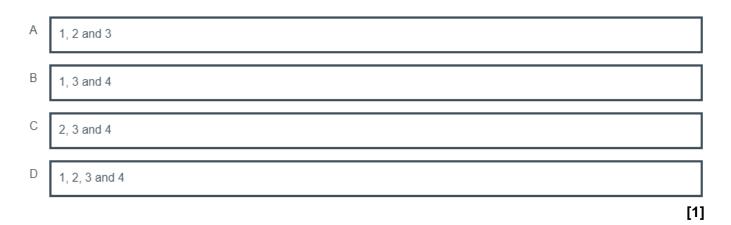
Options

C. Managing the cloud infrastructure	F. Virtual server creation	A. Creation of applications
E. Underlying hardware infrastructure	e B. Deployment of services	D. Physical data centre infrastructure
oud vendor O	rganisation	
oud vendor O	rganisation	

The following information has been requested to support an organisation's move to a cloud model.

- 1 Credentials
- 2 Drive space
- 3 Memory
- 4 Operating system

Select the correct answer that shows the information that is needed as part of the provisioning process.



Question 38

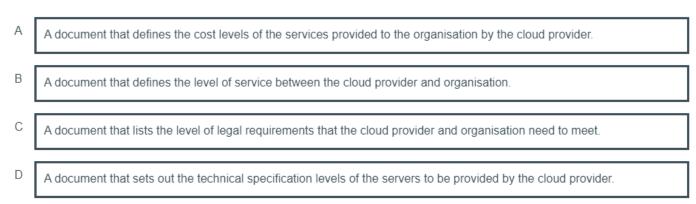
Drag each internal organisational skill from the options (A-E) below into the drop zone to indicate whether the internal organisational skill is needed by **either** the cloud architect **or** the cloud service manager **or** both.

Options

A. Business and fina	ancial skills E	. Vendor manageme	ent skills	D. Technical skills	B. Data integration skills
C. Project managem	nent skills				
oud architect	Cloud se	ervice manager	Both		

What is a Service Level Agreement (SLA)?

Select the correct answer.



[1]

Question 40

What does data integration mean?

Select the correct answer.

A	Creation of relationships between data owned by different organisations so it can be queried as a single entity.
В	Data from different sources consolidated into one database.

C Data from one database is separated into smaller subsets.

D Data in a flat file database is separated into tables and then joined in a relational database.

An organisation is transitioning from traditional IT services to using cloud services.

The steps needed to complete the transition are shown below.

Arrange the steps in the correct order by entering the associated number.

The first and last steps have been completed for you.

1	Define the strategy.
2	Build a migration plan.
3	Create an inventory of the infrastructure.
4	Engage a cloud partner.
5	Move services into the cloud.
6	Prepare the environment.
7	Implement governance and best practices.

Order	Step
1	Define the strategy.
2	
3	
4	
5	
6	
7	Implement governance and best practices.

[1]

Question 42

Read the statement and select if it is true or false.

Security and compliance skills are essential skills needed to use the cloud.

True

False

Which storage technology will allow multiple disks to appear as a single volume?

Select the correct answer.

A	JBOD
В	JSON
С	RAID
D	SAN

[1]

Question 44

Which of the following is a service that operates to allow cloud services to run?

Select the correct answer.

A	DHCP
В	FTP
С	IP
D	TCP

Which answer **best** describes software that allows a server to **abstract** the operating systems and applications from the underlying computer hardware?

Select the correct answer.

A	Abstraction
В	Hypervisor
С	Virtual machine
D	Virtualisation

Question 46

Which three statements describe the advantages of using orchestration?

Select three answers.

А	Can be run by IT support staff with limited technical ability.
В	Only allows one task to be run at a time reducing compounded errors.
С	Reduces potential errors.
D	Reduces the involvement of personnel.
E	Speeds up the delivery of services.

[1]

Question 47

Select two critical components of a data centre.

Select two answers.

A	Cooling
в	Power
С	Printers
D	Virtualisation
E	Windows

Question 48



The screenshot shows a feature of cloud services.

What benefit of cloud services is not being shown?

Select the correct answer.

A	Ability to	merge	changes.
---	------------	-------	----------

B Ability to roll back to previous version.

C Ability to track editing.

D Ability to track version history.

Version History Show Changes		
 April 5, 2019, 9:33 AM Current Version Unknown 		
When attempting to track access the option above was given.		
Why does it show the person who last ec	dited the file as unknown ?	
Select the correct answer.		

The file was edited before track access was introduced by cloud services.

B The user has set their account to be anonymous.

C The user no longer exists in the system.

D The user who has edited the file is called 'unknown'.

Question 50

А

Read the statement and select if it is true or false.

If a provider does not have its own productivity suite, it will allow you to use any add-on from another vendor's SaaS application.

True

False

[1]

[1]

Question 51

Which permission level is also known as private?

Select the correct answer.

A	Blocked
В	Internal
С	None
D	Restricted

Question 52

An organisation is improving its security by applying permissions to its files that are stored online.

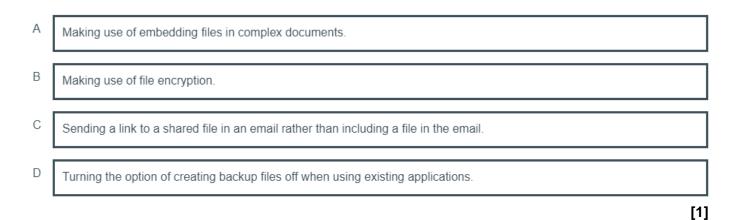
Drag each option (A-E) below, into the drop zone to indicate which **permissions** give **either** Edit only rights **or** View only rights **or** both.

The following permissions can be applied.

Options				
E. Write D. Read	C. Execute A. Create	B. Delete		
Edit only	View only	Both		
				[1]

Which of the following will not lead to data deduplication?

Select all the statements that apply.



Question 54

D

An organisation wants to transition its traditional on-site IT services to a cloud service model.

If the cloud service models considered do not meet the needs of the organisation, what action should be taken?

Select the correct answer.

A	Ask a cloud provider to make changes to its service model.

B Change its needs to meet the service model.

C Look again at an alternative service model.

Remain using traditional IT services.

One of the considerations for adopting cloud services is the suitability of the organisation's **infrastructure** to allow reliable access to the services.

What does infrastructure mean?

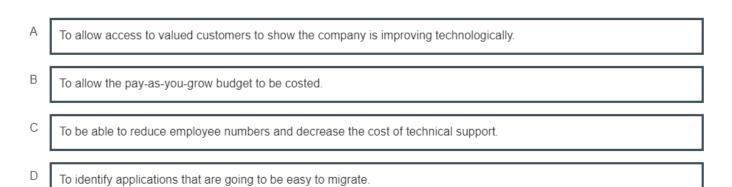
Select the correct answer.



Question 56

Choose one advantage of setting up a pilot program as part of a cloud readiness assessment.

Select the correct answer.



On completion of a pilot program a review will take place.

Why is a review needed?

Select the correct answer.

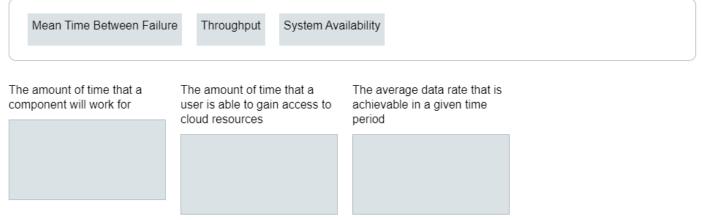
A	To allow employees to start the move to cloud services.	
В	To be able to put together a presentation for customers.	
С	To identify the volume of data that will need to be stored in the cloud.	
D	To understand what services can be migrated to the cloud service.	
		[1]

Question 58

A cloud provider provides a series of metrics to allow the quality of service to be monitored.

Drag the metric from the drag options to its definition in the drop zone.

Options



Read the statement and select if it is true or false.

Service monitoring and reporting is an essential part of a Service Level Agreement (SLA) as it allows a customer to ensure the cloud provider is meeting their obligations.

True

False

[1]

Question 60

A Service Level Agreement (SLA) between a cloud vendor and a customer includes dispute resolution procedures.

The steps of a dispute resolution procedure are shown below.

Arrange the steps in the correct order by entering the associated number.

The first and last steps have been completed for you.

1	Disagreement between the two parties.	
2	Discussions between the senior management of the cloud vendor and customer.	
3	Discussions between the cloud vendor and customer.	
4	Legal intervention.	
5	Independent mediation.	
6	Resolution.	

Order	Step
1	Disagreement between the two parties.
2	
3	
4	
5	
6	Resolution

If a cloud service uses multi-tenancy there will be a specific statement about this in the Service Level Agreement (SLA).

Read the following sentence about multi-tenancy and fill in the numbers representing the missing words in the sentence below.

- 1 customer
- 2 dedicated
- 3 hidden
- 4 individual
- 5 private
- 6 processing
- 7 public
- 8 vendor

In a multi-tenant application deployment, a						share of the application
			time is allocated to e	each		
and the data is kept				from	other companie	es accessing the same application.

[1]

Question 62

Which of the following should not be included in the disaster process recovery section of a Service Level Agreement (SLA)?

Select the correct answer.

A	Amount of data that can be lost to a disaster.
В	How long it takes to recover data from a backup.
С	The backup medium used.
D	The nature of the backup provision.

Which of the following will be included in a Service Level Agreement (SLA)?

Select the correct answer.

A	Annual price increase.
В	Data ownership.
С	Number of security breaches per year.
D	Server specifications.
	[1]

A Service Level Agreement (SLA) includes responsibilities for a cloud provider and a customer.

Drag each option (A-E) below into the drop zone to indicate which are the responsibility of **either** the cloud provider **or** the customer **or** both.

Options

B. The minimum amount of lead time for planned network changes A. To ensure security procedures are followed
D. To report problems with service C. To notify changes in service requirements
E. The maximum time to recover a file from backup
Cloud provider

Customer

Both

Read the statement and select if it is true or false.

Users must give consent for their data to be transferred within the European Economic Area (EEA).

True	
False	
	[1]

Question 66

Which three statements are covered by the Computer Misuse Act?

Select three answers.

A Making, supplying or obtaining anything which can be used to hack a computer.
 B Modification of data.
 C Storing data for longer than is necessary for the original purpose.
 D Unauthorised access to computer material.
 E Unauthorised access to computer materials with intent to commit a further crime.

Which of the following is not covered by the Official Secrets Act?

Select the correct answer.

А	Location of cloud provider's backup data centre.
В	Location of military installations.
С	Password policy for employees at Government Communications Headquarters (GCHQ).
D	Warship design.

Question 68

Who owns the data stored in the cloud?

Select the correct answer.

A The business making use of the cloud services.

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B The cloud provider.
```

C The cloud vendor.

D The group whom the data is about.

Which of the following is not a benefit to a company of using single sign on (SSO)?

Select the correct answer.



Question 70

Read the statement and select if it is true or false.

One of the risks of cloud adoption is that if the vendor increases their prices the organisation thinks they cannot leave and they stay and pay it.

True

False

[1]

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