AZ-900

	QUESTIONS	ANSWER AREA	Pass/Fail	Explanation	Reference
Q1:	A platform as a service (PaaS) Solution that hosts web apps in Azure provides full control of the operating systems that host applications A platform as a service (PaaS) Solution that hosts web apps in Azure provides the ability to scale the platform automatically. A platform as a service (PaaS) Solution that hosts web apps in Azure provides professional development services to continuously add features to custom applications.	No YES YES	100%	Box 1: No - A PaaS solution does not provide access to the operating system. The Azure Web Apps service provides an environment for you to host your web applications. Behind the scenes, the web apps are hosted on virtual machines running IIS. However, you have no direct access to the virtual machine, the operating system or IIS. Box 2: Yes - A PaaS solution that hosts web apps in Azure does provide the ability to scale the platform automatically. This is known as autoscaling. Behind the scenes, the web apps are hosted on virtual machines running IIS. Autoscaling means adding more load balanced virtual machines to host the web apps. Box 3: Yes - PaaS provides a framework that developers can build upon to develop or customize cloud-based applications. PaaS development tools can cut the time it takes to code new apps with pre-coded application components built into the platform, such as workflow, directory services, security features, search and so on.	https://azure.microsoft.com/en-gb/overview/what-is-paas/
Q2:	Azure provides flexibility between capital expenditure (CapEx) and operational (OpEx) If you create two Azure virtual machines that use the B2S size, each virtual machine will always generate the same monthly costs. When Azure virtual machine is stopped, you continue to pay storage costs associated to the virtual machine.	Yes No Yes	100%	Box 1: Yes - Traditionally, IT expenses have been considered a Capital Expenditure (CapEx). Today, with the move to the cloud and the pay-as-you-go model, organizations have the ability to stretch their budgets and are shifting their IT CapEx costs to Operating Expenditures (OpEx) instead. This flexibility, in accounting terms, is now an option due to the â€as a Serviceâ€ model of purchasing software, cloud storage and other IT related resources. Box 2: No - Two virtual machines using the same size could have different disk configurations. Therefore, the monthly costs could be different. Box 3: Yes - When an Azure virtual machine is stopped, you donâ€™t pay for the virtual machine. However, you do still pay for the storage costs associated to the virtual machine. The most common storage costs are for the disks attached to the virtual machines. There are also other storage costs associated with a virtual machine such as storage for diagnostic data and virtual machine backups.	https://meritsolutions.com/capex-vs-opex-cloud-computing-blog/
Q3:	When you are implementing a Software as a Service (SaaS)solution, you are responsible for:	configuring the SaaS solution	100%	When you are implementing a Software as a Service (SaaS) solution, you are responsible for configuring the SaaS solution. Everything else is managed by the cloud provider. SaaS requires the least amount of management. The cloud provider is responsible for managing everything, and the end user just uses the software. Software as a service (SaaS) allows users to connect to and use cloud-based apps over the Internet. Common examples are email, calendaring and office tools (such as Microsoft Office 365). SaaS provides a complete software solution which you purchase on a pay-as-you-go basis from a cloud service provider. You rent the use of an app for your organization and your users connect to it over the Internet, usually with a web browser. All of the underlying infrastructure, middleware, app software and app data are located in the service providerâ€™s data center. The service provider manages the hardware and software and with the appropriate service agreement, will ensure the availability and the security of the app and your data as well.	https://azure.microsoft.com/en-in/overview/what-is-saas/ https://docs.microsoft.com/en-gb/learn/modules/principles-cloud-computing/5-types-of-cloud-services
Q4:	You have an on-premises network that contains several servers. You plan to migrate all the servers to Azure. You need to recommend a solution to ensure that some of the servers are available if a single Azure data center goes offline for an extended period. What should you include in the recommendation?	A: fault tolerance	100%	Fault tolerance is the ability of a system to continue to function in the event of a failure of some of its components. In this question, you could have servers that are replicated across datacenters. Availability zones expand the level of control you have to maintain the availability of the applications and data on your VMs. Availability Zones are unique physical locations within an Azure region. Each zone is made up of one or more datacenters equipped with independent power, cooling, and networking. To ensure resiliency, there are a minimum of three separate zones in all enabled regions. The physical separation of Availability Zones within a region protects applications and data from datacenter failures. With Availability Zones, Azure offers industry best 99.99% VM uptime SLA. By architecting your solutions to use replicated VMs in zones, you can protect your applications and data from the loss of a datacenter. If one zone is compromised, then replicated apps and data are instantly available in another zone.	https://docs.microsoft.com/en-us/azure/virtual-machines/windows/manage-availability
Q5:	An organization that hosts its infrastructure *** no longer requires a data center	Ans: in a public cloud	100%	A private cloud is hosted in your datacenter. Therefore, you cannot close your datacenter if you are using a private cloud. A public cloud is hosted externally, for example, in Microsoft Azure. An organization that hosts its infrastructure in a public cloud can close its data center. Public cloud is the most common deployment model. In this case, you have no local hardware to manage or keep up-to-date â€" everything runs on your cloud provider's hardware. Microsoft Azure is an example of a public cloud provider. In a private cloud, you create a cloud environment in your own datacenter and provide self-service access to compute resources to users in your organization. This offers a simulation of a public cloud to your users, but you remain completely responsible for the purchase and maintenance of the hardware and software services you provide.	
Q6:	What are two characteristics of the public cloud? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.	1: metered pricing 2: self-service management	100%	Correct Answer: DE With the public cloud, you get pay-as-you-go pricing â€" you pay only for what you use, no CapEx costs. With the public cloud, you have self-service management. You are responsible for the deployment and configuration of the cloud resources such as virtual machines or web sites. The underlying hardware that hosts the cloud resources is managed by the cloud provider. Incorrect Answers: A: You donâ€™t have dedicated hardware. The underlying hardware is shared so you could have multiple customers using cloud resources hosted on the same physical hardware. B: Connections to the public cloud are secure. C: Storage is not limited. You can have as much storage as you like.	https://docs.microsoft.com/en-gb/learn/modules/principles-cloud-computing/4-cloud-deployment-models
Q7:	When planning to migrate a public website to Azure, you must plan to:	pay monthly usage costs	100%	When planning to migrate a public website to Azure, you must plan to pay monthly usage costs. This is because Azure uses the pay-as-you-go model.	
Q8:	Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution. After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen. Your company plans to migrate all its data and resources to Azure. The companyâ€™s migration plan states that only Platform as a Service (PaaS) solutions must be used in Azure. You need to deploy an Azure environment that meets the company migration plan. Solution: You create an Azure App Service and Azure SQL databases. Does this meet the goal?	Yes	100%	Correct Answer: A Azure App Service and Azure SQL databases are examples of Azure PaaS solutions. Therefore, this solution does meet the goal.	
Q9:	Your company plans to migrate all its data and resources to Azure. The companyâ€™s migration plan states that only Platform as a Service (PaaS) solutions must be used in Azure. You need to deploy an Azure environment that meets the company migration plan. Solution: You create an Azure App Service and Azure virtual machines that have Microsoft SQL Server installed. Does this meet the goal?	Yes	100%	Correct Answer: A Azure App Service is a PaaS (Platform as a Service) service. Azure virtual machines are an IaaS (Infrastructure as a Service) service, and a Paas service. Therefore, this solution does meet the goal. Note: Like IaaS, PaaS includes infrastructureâ€"servers, storage, and networkingâ€"but also middleware, development tools, business intelligence (BI) services, database management systems, and more. PaaS is designed to support the complete web application lifecycle: building, testing, deploying, managing, and updating.	https://azure.microsoft.com/en-us/overview/what-is-paas/
Q10:	Your company plans to migrate all its data and resources to Azure. The companyâ€™s migration plan states that only Platform as a Service (PaaS) solutions must be used in Azure. You need to deploy an Azure environment that meets the company migration plan. Solution: You create an Azure App Service and Azure Storage accounts. Does this meet the goal?	No	100%	Azure Storage is PaaS. For me, IaaS for Storage is, for example, when you create a virtual domains in the storage array and provide tenants the access with a restricted set of resources of the array (i.e. limited space, limited ports), so each tenant has control only of his resources and decides what type of volumes he wants to create and how he wants to present them.	https://docs.microsoft.com/en-us/learn/modules/azure-networking-fundamentals/azure-virtual-network-fundamentals
Q11:	Your company hosts an accounting application named App1 that is used by all the customers of the company. App1 has low usage during the first three weeks of each month and very high usage during the last week of each month. Which benefit of Azure Cloud Services supports cost management for this type of usage pattern?	C: elasiticity	100%	Correct Answer: C Elasticity in this case is the ability to provide additional compute resource when needed and reduce the compute resource when not needed to reduce costs. Autoscaling is an example of elasticity. Elastic computing is the ability to quickly expand or decrease computer processing, memory and storage resources to meet changing demands without worrying about capacity planning and engineering for peak usage. Typically controlled by system monitoring tools, elastic computing matches the amount of resources allocated to the amount of resources actually needed without disrupting operations. With cloud elasticity, a company avoids paying for unused capacity or idle resources and doesnâ€™t have to worry about investing in the purchase or maintenance of additional resources and equipment.	https://azure.microsoft.com/en-gb/overview/what-is-elastic-computing/
Q12:	You plan to migrate a web application to Azure. The web application is accessed by external users. You need to recommend a cloud deployment solution to minimize the amount of administrative effort used to manage the web application. What should you include in the recommendation?	B. Platform as a Service (PaaS)	100%	Azure App Service is a platform-as-a-service (PaaS) offering that lets you create web and mobile apps for any platform or device and connect to data anywhere, in the cloud or on-premises. App Service includes the web and mobile capabilities that were previously delivered separately as Azure Websites and Azure Mobile Services.	https://docs.microsoft.com/en-us/azure/security/fundamentals/paas-applications-using-app-services
Q13:	Azure virtual machines: Azure SQL databases:	IaaS PaaS	100%	Box 1: Azure virtual machines are Infrastructure as a Service (IaaS). Infrastructure as a Service is the most flexible category of cloud services. It aims to give you complete control over the hardware that runs your application (IT infrastructure servers and virtual machines (VMs), storage, networks, and operating systems). Instead of buying hardware, with IaaS, you rent it. Box 2: Azure SQL databases are Platform as a Service (Paas). Azure SQL Database is a fully managed Platform as a Service (PaaS) Database Engine that handles most of the database management functions such as upgrading, patching, backups, and monitoring without user involvement. Azure SQL Database is always running on the latest stable version of SQL Server Database Engine and patched OS with 99.99% availability. PaaS capabilities that are built-in into Azure SQL database enable you to focus on the domain specific database administration and optimization activities that are critical for your business.	https://docs.microsoft.com/en-gb/learn/modules/principles-cloud-computing/5-types-of-cloud-services https://docs.microsoft.com/en-us/azure/sql-database/sql-database-paas-index
Q14:	You have an on-premises network that contains 100 servers. You need to recommend a solution that provides additional resources to your users. The solution must minimize capital and operational expenditure costs. What should you include in the recommendation?	D. a hybrid cloud	100%	A hybrid cloud is a combination of a private cloud and a public cloud. Capital expenditure is the spending of money up-front for infrastructure such as new servers. With a hybrid cloud, you can continue to use the on-premises servers while adding new servers in the public cloud (Azure for example). Adding new servers in Azure minimizes the capital expenditure costs as you are not paying for new servers as you would if you deployed new server on-premises. Incorrect Answers: A: A complete migration of 100 servers to the public cloud would involve a lot of operational expenditure (the cost of migrating all the servers). B: An additional data center would involve a lot of capital expenditure (the cost of the new infrastructure). C: A private cloud is hosted on on-premises servers to this would involve a lot of capital expenditure (the cost of the new infrastructure to host the private cloud).	https://docs.microsoft.com/en-gb/learn/modules/principles-cloud-computing/4-cloud-deployment-models
Q15:	To achieve a hybrid model, a company must always migrate from a private cloud model. A company can extend the capacity of its internal network by using the public cloud In a public cloud model, only guest users at your company can access the resources in the cloud.	No Yes No	100%	Box 1: No - It is not true that a company must always migrate from a private cloud model to implement a hybrid cloud. You could start with a public cloud and then combine that with an on-premise infrastructure to implement a hybrid cloud. Box 2: Yes - A company can extend the capacity of its internal network by using the public cloud. This is very common. When you need more capacity, rather than pay out for new on-premises infrastructure, you can configure a cloud environment and connect your on-premises network to the cloud environment by using a VPN. Box 3: No - It is not true that only guest users can access cloud resources. You can give anyone with an account in Azure Active Directory access to the cloud resources. There are many authentication scenarios but a common one is to replicate your on-premises Active Directory accounts to Azure Active Directory and provide access to the Azure Active Directory accounts. Another commonly used authentication method is â€˜Federationâ€™ where authentication for access to cloud resources is passed to another authentication provider such as an on-premises Active Directory. https://azure.microsoft.com/en-gb/overview/what-is-hybrid-cloud-computing/	
Q16:	You plan to migrate several servers from an on-premises network to Azure. What is an advantage of using a public cloud service for the servers over an on-premises network?	Ans: D. The public cloud is a shared entity whereby multiple corporations each use a portion of the resources in the cloud	100%	The public cloud is a shared entity whereby multiple corporations each use a portion of the resources in the cloud. The hardware resources (servers, infrastructure etc.) are managed by the cloud provider. Multiple companies create resources such as virtual machines and virtual networks on the hardware resources. Incorrect Answers: A: The public cloud is not owned by the public. In the case of Microsoft Azure, the cloud is owned by Microsoft. B: The public cloud is a not crowd-sourcing solution. In the case of Microsoft Azure, the cloud is owned by Microsoft. C: It is not true that public cloud resources can be freely accessed by every member of the public. You pay for a cloud subscription and create accounts for your users to access your cloud resources. No one can access your cloud resources until you create user accounts and provide the appropriate access permissions.	
Q17:	Azure Site Recovery provides *** for virtual machines	fault tolerance	100%	Azure Site Recovery helps ensure business continuity by keeping business apps and workloads running during outages. Site Recovery replicates workloads running on physical and virtual machines (VMs) from a primary site to a secondary location.	https://docs.microsoft.com/en-us/azure/site-recovery/site-recovery-overview
Q18:	In which type of cloud model are all the hardware resources owned by a third-party and shared between multiple tenants?v	C. public	100%	Microsoft Azure, Amazon Web Services and Google Cloud are three examples of public cloud services. Microsoft, Amazon and Google own the hardware. The tenants are the customers who use the public cloud services.	
Label 19	An Azure web app that queries an on-premises Microsoft SQL server is an example of a *** cloud	hybrid			https://azure.microsoft.com/en-gb/overview/what-is-hybrid-cloud-computing/
Label 20	You have 1,000 virtual machines hosted on the Hyper-V hosts in a data center. You plan to migrate all the virtual machines to an Azure pay-as-you-go subscription. You need to identify which expenditure model to use for the planned Azure solution. Which expenditure model should you identify?	A. operational	100%	One of the major changes that you will face when you move from on-premises cloud to the public cloud is the switch from capital expenditure (buying hardware) to operating expenditure (paying for service as you use it). This switch also requires more careful management of your costs. The benefit of the cloud is that you can fundamentally and positively affect the cost of a service you use by merely shutting down or resizing it when it's not needed.	https://docs.microsoft.com/en-us/azure/architecture/cloud-adoption/appendix/azure-scaffold