

Mid Semester Assignment (Spring - 2020)
Cloud Computing

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Instructor: M Omer Rauf

Note: Attempt all Questions. Answers should be in your own words. Plagiarism will not be tolerated, if detected, it will lead to failure.

Question No. 1: (10)

- a. Explain essential characteristics of cloud computing.
- b. Explain in detail the key properties of cloud computing.

Question No. 2: (10)

- a. Explain in detail different service models of cloud computing.
- b. Explain in detail different deployment models of cloud computing.

Question No. 3: (10)

- a. Explain in detail roles and boundaries in cloud.
- b. Explain in detail cloud risk and challenges.

Question No. 1:

a.

Answer:

- 1) The first major characteristic of cloud computing is that it does not require human interaction, if user require any kind or resources it is provided by the System automatically.
- 2) It can be accessed from any device and any platform of the client i.e. (Mobile phones, tablets, laptops and Workstations etc.)
- 3) The Capabilities of the system varies it can be increased or decreased (i.e. System power, efficiency or response to users etc.)
- 4) User can monitor all the resources he is using and can keep a report of usage and can control all activities.
- 5) Resources are assigned and reassigned automatically on customer demand.
- 6) The servers are easily maintained and the down time is very low and even in some cases there is no downtime.

b)

Answer:

- i Cloud Computing is so powerful that it perform a very good functionality of connecting so many computers which cannot be done by a PC desktop.
- ii In cloud computing the data is stored in cloud so the user can gain more information and can access multiple resources.
- iii Cloud Computing make duplicate of your data and save it on other computers to prevent it from lose And if one computer or server gets down it automatically send the data to a new computer on the cloud.
- iv Cloud computing is user-oriented in such a way that when the user is connected to the cloud the data stored there become his own and also the resources and multiple application present there are now his property he can use them and can share with others.
- v The capacity of a cloud stage to monitor the genuine use of its IT assets by each cloud shopper with which the cloud supplier charges the cloud purchaser.

Question No. 2:

a.

Answer:

There are there three service models of cloud computing namely:

- 1) Software as a service (SAAS)
- 2) Platform as a Service (PAAS)
- 3) Infrastructure as a Service (IAAS)

SOFTWARE AS A SERVICE (SAAS)

This Model allows you to use any software or application without its installation in the PC you are working on. You can access that by

web browser over the cloud. The application there is either paid licensed or free but the user has full access to all the functionalities of the software.

PLATFORM AS A SERVICE (PAAS)

Platform as a Service or PAAS gives user on his demand a programming environment where the user can build a software, program, code, compile and all the other basic functionalities needed by a developer. It provides a virtual environment for developing and testing applications.

INFRASTRUCTURE AS A SERVICE (IAAS)

This model of Cloud Computing provides a virtual computing environment comprising of all that infrastructure and computing resources. This allows you to have a computer system, all resources and Hardware specifications (such as servers, storage and networking hardware) according to the user needs without installing the hardware actually at their place.

b.

Answer:

The deployment models of cloud computing are as following:

- ❖ Private Cloud
 - is accessible by a predefined number of people
 - is owned by a single company or organizations
 - It is very much secure as it is not accessible by everyone

- ❖ Hybrid Cloud
 - A cloud which is formed by the combination of two Clouds i.e. private and public cloud.
 - This consist of best features and a mixture of other models.
 - Like if an online business needs more computing resources so it will retain public cloud or use private cloud.

- ❖ Public Cloud
 - The data of public cloud is available and accessible by the general public
 - Anyone can use its resources
 - it is not a secure model of cloud computing

- ❖ Community Cloud
 - Community Cloud is used by several organizations
 - For example an international company is sharing its data to every branch of the company in other countries or cities.

Question No. 2:

a.

Answer:

The roles and boundaries in a cloud are as following:

ROLES:

- i. A company or an organization that provides cloud-based IT resources as a service is known as Cloud Provider.
- ii. An organization or an individual that uses the services provided by an organization is called Cloud Customer
- iii. An organization or a person that owns the cloud is known as cloud service owner.
- iv. The individual or an organization who is responsible for management and controlling the cloud resources provided by the cloud is known as Cloud resources administration.

BOUNDARIES:

- i. Physical edge that encompasses a lot of IT assets that are claimed and represented by an association is known as organizational boundary.
- ii. An intelligent edge that commonly ranges past physical limits to speak to the degree to which IT assets are trusted is known as trust boundary.

b.

Answer:

CLOUD MIGRATION:

It is the way toward moving information, applications, and other significant data of an association from its on-premises to the cloud framework. Cloud movement empowers all the registering abilities those were performed before by gadgets introduced on-premises.

INCOMPATIBILITY:

During moving outstanding tasks at hand from on-premises to the cloud, the basic issue the inconsistency between on-premises foundation and the administrations which are organizations going to purchase from the open cloud suppliers.

DATA SECURITY:

Cloud Service Provider are liable for giving mists' security, however they don't know about making sure about for your applications, servers, and security of information.

LACK OF EXPERTISE:

With the snappy progressions and enhancements in cloud advances, an ever increasing number of associations are mists to put their outstanding tasks at hand. Associations can manage this test by giving cloud innovations preparing to their framework administrators alongside staff individuals.

DOWNTIME:

Organizations need to have total information openness and accessibility when their information is put away on cloud whenever from anyplace. The primary test most associations face is they can get to their information from cloud just through web association.

BANDWIDTH COST:

Despite the fact that associations and organizations can get a good deal on equipment utilizing cloud, however they need to pay extra for the data transmission they use to get to their outstanding tasks at hand.