Final Term Paper (Spring - 2020)
Cloud Computing

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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:

Ans No 1:

Network:

Definition:

A network consists of two or more computers or cellphones connected to each other to share data, resources, such as CDs, USB, printers, enabling electronic communication, sending e-mails, messages, and also file exchanges. Networks are created or connected through cables, radio waves, satellites, telephone lines and infrared light rays.

Benefits of Networks:

- Allows to track and monitor resource usage.
- Allows saving data in a central location where the server is located.
- This helps in reducing the number of devices needed.
- Enables us to implement security policies.
- This allows many users to work on one project.

Purpose of a Network:

1. **Data Sharing:**
   Networks allow us to share or send data with connected devices such as computers, cellphones, printers, etc. Now if there is no network concept, sharing data with different devices is too difficult. As an example We want to share or send my data to

other computers that I do share data regularly. If there is no network, data with two computers is done by the following method.

- Move that external devices to other computer which we want to send data.
- The receiver computer read or copies the data from those external devices.

We work in large organizations, data sharing occurs 100 or more than 100 times which is difficult. Networks are the best solution for sharing data with devices that are connected with large amounts of data that we can send easily.

2. **Resource sharing:**
   Networking allows us to share devices among the computers. By sharing the devices, we can reduce the number of required components in the network. We can share a single printer in a whole network.

3. **Application Sharing:**
   Network allows us to share data and resources but it also allows us to share the application within a network. One application is installed on a server side where as other are installed on a clients side. Both are used by sending and receiving a data b/t each other.

Devices which are used for network are given below:

a. Hub.
b. Routers.
c. Bridges.
d. Interface Cards.

Cloud-Based Storage:

Cloud storage is a cloud computing model that stores data on the internet through companies that enable cloud computing and also manage and operate data storage as a service. Cloud providers enable or send cloud servers on demand with capacity and cost in time and eliminate the purchase and management of your data storage.

Benefits of Cloud Storage:

- **Total Cost of Ownership:**

We can only purchase the cloud storage by adding or removing the capacity by demand which we offer. It make quick change, high performance. If the data access frequency are low it can move automatically move to lower cost tires.

Cloud Storage Requirement:

- Durability.
- Availability.
- Security.

Type of Cloud Storage:

- Object Storage.
- File Storage.

Question No: 2:

Ans N0 2:

(a) Web Applications:

A web application is an application software that runs on a web server , unlike computer based software programs that are stored locally on the operating system of the device. The user through a web browser with an active internet connection accesses web applications. These applications are programmed using a client server modeled structure the user is provided services through an off-site server that is hosted by a third party. The web applications can be designed for a wide verity of uses and can be used by anyone. From an organization to an individual for many reasons.

Multitenant Technology:

The Cloud Computing Multi-tenant Technology means that multiple customers of a cloud vendor are using the same computing resources. Despite the fact that they share resources cloud customers are not aware of each other and their data is kept totally separate. Multi tenancy is a crucial component of cloud computing without it cloud services would be far less practical. Multi-tenant architecture is a feature in many types of public cloud computing including Software as a Service, Platform as a Service and Infrastructure as a Service.

(b) Cloud Security Threads:

The past decade has seen an explosion in the popularity of cloud-computing and cloud-based storage solutions with consumers and businesses. However while moving to the cloud offers a number of benefits to businesses, many have concerns regarding security. While this is no reason to avoid using cloud-based solutions, it is important to be aware of them especially when choosing a supplier. Below are some of the most prominent security threats and concerns facing businesses moving to the cloud.

- The move to cloud will inevitably lead to some loss of control of your organization's data as it is stored on the cloud provider servers. Issues such as the geographic location of your data, specific backup processes and the steps taken to ensure your data is private and secure are no longer in your control.

- Regardless of where and how your data is stored, the permanent loss of data is likely a major concern. Data loss can have a huge impact financially, operationally and even legally as data loss may result in the failure to meet compliance policies or data protection requirements.

- Data breach threats exists regardless of whether data is stored internally or on cloud. Some cloud services may be more vulnerable to potential attacks and the hijacking of data due to new methods of attack such as Man-in-the-Cloud. This takes advantage of synchronization services to access and extract data, compromise files or attack end-users.

- Hackers or even authorized users may potentially attack and abuse cloud storage for illegal activities. This can include the storing and spread of copyrighted materials, pirated software, malware or viruses. This can occur when individuals directly attack the service or take over the cloud service's resources.

Ans No 3: Part : a:

1. **Advantage:**
   Following are advantage of cloud computing:

   - Accessibility.
   - Cost Reduction.
   - Security.
   - Reliability.
   - Easy Implementation.

- No hardware required.

2. **Disadvantage:**
   Following are disadvantage of cloud computing:

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- No Redundancy.
- Bandwidth issues.
- Downtime**.**
- Internet Connectivity.
- Lacks of support.

Ans No 3: Part: b.

Features of Collaborative Meeting:

- Streaming video to allow communicating face to face.
  - ✓ Google class room.
- Used whiteboard or multimedia to control the presentation.
- Share Application.
- Meeting recoding.