

PHYSICS PRACTICAL SHEETS



Date: CAMPUS
Class: Purushottam Adhikari
Roll No.: Chapter 1
Shift: Experiment No.:
Object of the Experiment (Block Letter)

Group:
Sub:
Set:

Q1) What is cloud computing? Write its characteristics.

Cloud itself is a ~~set~~ of hardware, storage, services and interfaces that enable the delivery of computing as a service. Cloud computing is a technology that uses remote servers over the internet to store, manage and access data online rather than local drive of our premises approach. It is a model for enabling ubiquitous, convenient on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimum management effort or service provider interaction.

Characteristics:

- i) On-demand service: without requiring human interaction with service provider
- ii) Ubiquitous Service: access from any ~~where~~ device
- iii) Location-independent Resource Pooling: No control, knowledge over physical location of server
- iv) Rapid Elasticity: scale out and scale in automatically & rapidly
- v) Dynamic Measure service - pay as you go
- vi) Flexible and restart capabilities
- vii) Multi-tenant system
- viii) Virtualization
- ix) privacy and security of data.

Q. Explain types of cloud and its cloud services.

Cloud computing is a style of computing in which business processes, applications, data and any types of IT resources can be provided as a service to user.

Types of cloud / deployment model:

- i) public iii) Hybrid
- ii) private iv) community

i) public cloud:-

The infrastructure of public cloud is made available for general public where the resources are provided over internet and user can access from cloud.

ii) private cloud:

The infrastructure of private cloud is made available only for specific organization and not for other org. It is more protected than the public cloud.

iii) Hybrid cloud:-

It is combination of more than one cloud. Critical data can be hosted by the org on private cloud and data by having pretty less security relates to public cloud.

iv) community cloud:

It supports specific community or interested group. It means org that have similar policies, objectives and target belongs to specific community, build a shared cloud data center that can be used by all members.

4. List out the cloud service requirements / Application of cloud computing

(i) Efficiency/ cost reduction:-

By using cloud infrastructure, we don't have to spend more money on purchasing and maintaining equipment

(ii) Data security :-

Cloud offers many advanced security to that data.

(iii) Mobility :-

Cloud allows mobile access to corporate data via smart phones.

(iv) Disaster recovery :- It provides data available anytime and mechanism for data recovery.

v) Automatic software updates

vi) control : We can control our data by providing level of data access.

c) what is cloud adoption? List out its benefits.

Cloud adoption means adopting a service or technology from another cloud service provider. It adopt the new technology or new trends. It is suitable for low priority business application. It supports more interactive application that combines two or more data sources.

Benefits:-

- (i) useful when data recovery management is required.
- (ii) increase resource sharing
- (iii) Business agility
 - iv) Better collaboration
 - v) Facilitates innovation
 - vi) Great efficiency at low price

6. Explain the dynamic infrastructure of cloud?

i) service management:-

This type of special facility includes visibility, automation and control to delivering the first class IT services.

ii) virtualization and consolidation:-

Consolidation is an effort to reduce cost of technology by improving its operating efficiency and effectiveness which is done by virtualization.

iii) Asset management:-

Asset or property which is involved in providing the cloud services are getting managed.

iv) Information Infrastructure:

It helps to achieve information compliance, availability of resource retention and security objectives.

v) Energy efficiency

It makes organization sustainable. It means it is not likely to damage or effect any other things.

vi) Security:- cloud infrastructure is responsible for risk mgmt.

vii) Resilience:-

Provides services resilient. It means infrastructure is safe from all sides.

Cloud Services:

There are three cloud services:

- (i) platform as service
- (ii) Software as Service
- (iii) Infrastructure as services

(i) platform as services:

PaaS provides a computing platforms with programming language execution environment. It provide a development and deployment platform for running application to the cloud. eg. Google App engine, Force.com.

(ii) Software as service:

SaaS allows user to connect to and use cloud based application over the internet. It is the service with which end users interact directly. eg. gmail, Googledrive etc.

iii) Infrastructure as a service:

IaaS is the basic layer in cloud computing model. It offers servers, networks, load balancers, database, web servers etc. It delivers customizable infrastructure on demand.

eg. Amazon web services (aws), Microsoft Azure etc.

3. List out the benefit and challenges of cloud computing.

Benefits

- i) Reduced cost: It reduce the cost of managing and maintaining the resources of cloud vendors without having to purchase and install.
- ii) Flexibility:- we can access from anywhere
- iii) Availability : It is highly available 24×7 .
- iv) Reliability :- More reliable when chances of failure is minimum & immediate response to disaster recovery
- v) Mobility:- No need to carry personal computer, it can be access anywhere anytime
- vi) Unlimited storage
- vii) Simplicity

Challenges :

- i) Security and privacy: biggest challenges to cloud.
- ii) portability:- challenge when shifting from one cloud to another.
- iii) Interoperability:- Design web services are complex
- iv) Computing performance: required high bandwidth which result high cost
- v) Reliability and Availability:- To provide reliable and availability of data cost high to build infrastructure.

7. Write short note on cloud storage.

Cloud storage is a cloud computing model that stores data on the internet through cloud computing provider who manages and operates data storage as services. It is delivered on demand with just in time capacity and cost and eliminates by removing buying and managing your own data storage infrastructure. This gives us agility, global scale and durability with anytime, anywhere' data access.

Storing data in cloud lets IT department transform three areas:

i) Total cost of ownership: We can add or remove capacity on demand quickly change performance and retention characteristics and only pay for storage that you actually use.

ii) Time to deployment:- When development team are ready to execute, the infrastructure should never slow down them down.

iii) Information Management:- Centralizing storage in cloud creates a tremendous leverage point for new usecases. By using cloud storage infrastructure lifecycle mgmt, policies we can perform powerful information management

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