

1) What is IT?

Information Technology (IT) is the use of computers to create, process, store, retrieve, and exchange all kinds of electronic data and information.

2) What is a Computer?

A Computer is a Machine or device that performs processes, calculations and operations based on instructions provided by a software or hardware program. It has the ability to accept data (Input) process it, and then produce outputs.

3) Types of software and Examples?

Software is a set of instructions, data or programs used to operate computers and execute specific tasks.

Types * Application Software
* System Software

* Application Software :-

Application Software refers to a set of programs and instructions that help perform specific tasks, on a computer system. Application software can be downloaded and installed manually on the

computer system. It is important to note that application software cannot run on its own they require platform established by the system software.

Examples :-

- Spread sheets
- Microsoft word

* System Software :-

These software programs are designed to run a computer's programs and hardware. System software coordinates activities and functions of the hardware and software.

Examples :-

- Operating Systems (OS)
- Linux

4) What is a program?

In Computing, a program is a specific set of ordered operations for a computer to perform.

5) What is a software?

Software is a set of instructions, data or programs used to operate computers and perform specific tasks.

6) What is Information?

Information is processed, organized and structured data. It provides context for data and enables decision making process.

7) What is Data?

Data, collection of information gathered by observations, measurements, research or analysis.

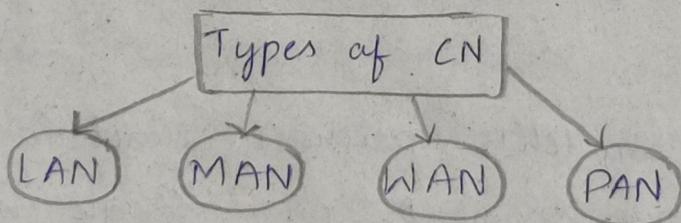
Data is organized in the form of graphs, charts or tables.

4th May 2022

1) What is Computer Network?

A Computer network is a system that connects two or more computing devices for transmitting and sharing information.

2) What are the types of computer Network (CN)?



LAN → Local Area Network

MAN → Metropolitan Area Network

WAN → Wide Area Network

PAN → Personal Area Network

3) What is IP Address?

A unique string of characters that identifies each computer using the Internet protocol to communicate over a network.

4) What is difference b/w IPv4 and IPv6?

IPv4

IPv6

→ IPv4 is 32-bit address	→ IPv6 is 128-bit address
→ In IPv4 end to end connection integrity is Unachievable	→ In IPv6 end to end connection integrity is achievable

5) What are Modems, Switches and Routers?

* Modems:-

A Modem is short for a Modulator - demodulator. Its function is to facilitate the transmission of data, by converting an analogue signal to code and decoding digital information.

* Switches:-

A Network switch's primary function is to connect network segments on a single network.

It connects many devices together on the same network, sending data to a device that needs or requests.

* Router :-

Just as a switch connects multiple devices to create a network, a router connects multiple switches, and their respective networks, to form an even larger network.

5th May 2022

1) What is a Server?

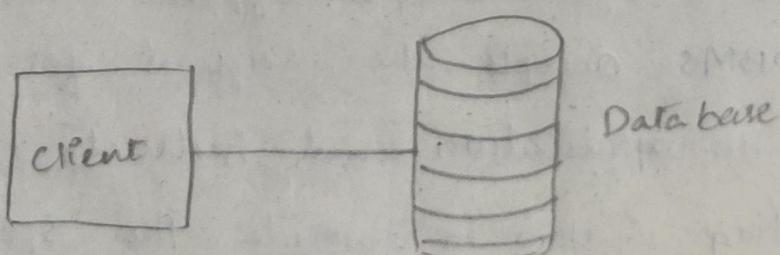
Server is a computer program or device that provides a service to another computer program and its user, also known as the client.

2) What is FMS?

File Management System is an application that is used to store, arrange, and access files stored on a disk or other storage location.

3) What is 2-Tier Architecture?

The two-tier architecture is like client-server application. The direct communication takes place b/w client and server. There is no intermediate b/w client and server.



4) What is 3-Tier Architecture?

The Three-Tier consists of one more layer b/w client and Server. There will be no direct communication b/w client and server.

*) Presentation layer:-

It is also a client layer and main purpose is to communicate with the application layer.

*) Application layer:-

It is also a business logic layer and acts as Middle ware b/w client and server.

*) Database layer:-

In this layer the data or information is stored. This layer performs operations like insert, update and delete to connect with the database.

5) What is N-Tier Architecture?

N-Tier is also called as Multi-tier architecture because the software is engineered to have the processing, data management, and presentation functions physically and logically separated.

6) What is DBMS and its types?

The DBMS accepts the request for data from an application and instructs the Operating System to provide the specific data.

Types of DBMS

- * Relational database
- * Object oriented database
- * Hierarchical database
- * Network database

7) What is RDBMS?

An RDBMS is a type of database management system (DBMS) that stores data in a row-based table structure which connects related data elements.

8) What is Client Server Architecture?

Client-Server architecture is a computing model in which the server hosts, delivers, and manages most of the resources and services requested by the client.

9) What is Middleware Server?

Middleware Server is a software that lies between an operating system and the applications running on it and provides services to facilitate their communication.

10) What is Web Server?

A Web Server is a software and hardware that uses HTTP (HyperText Transfer Protocol) and other

protocols to respond to client requests made over the World Wide Web.

The main job of the web server is to display website content through storing, processing and delivering web pages to users.

1) What is an Application Server?

An application software is a type of software designed to install, operate and host applications and associated services for end users, IT services and organizations.

9th May 2022

1) What is a URL?

A URL (Uniform Resource Locator) is a unique identifier used to locate a resource on the Internet. It is also referred to as a Web Address.

2) What is a Protocol?

A protocol is a standard set of rules that allow electronic devices to communicate with each other.

These rules includes what type of data may be transmitted, what commands are used to send and receive data, and how data transferred are confirmed.

3) What is URI?

A URI (Uniform Identifier Resource) is a character sequence that identifies a logical (abstract) or physical resource - usually, but not always connected to the internet. A URI distinguishes one resource from another.

4) What is hostname and Domain name?

Host name :-

A host name is unique name or label assigned to any device that is connected to a specific computer network. It facilitates the differentiation of different machines or devices connected to the Internet, a network and/or both.

Domain name :-

A domain name is your website name. A domain name is the address where Internet users can access your website. A domain name is used for finding and identifying computers on the Internet.

5) What is a use of port?

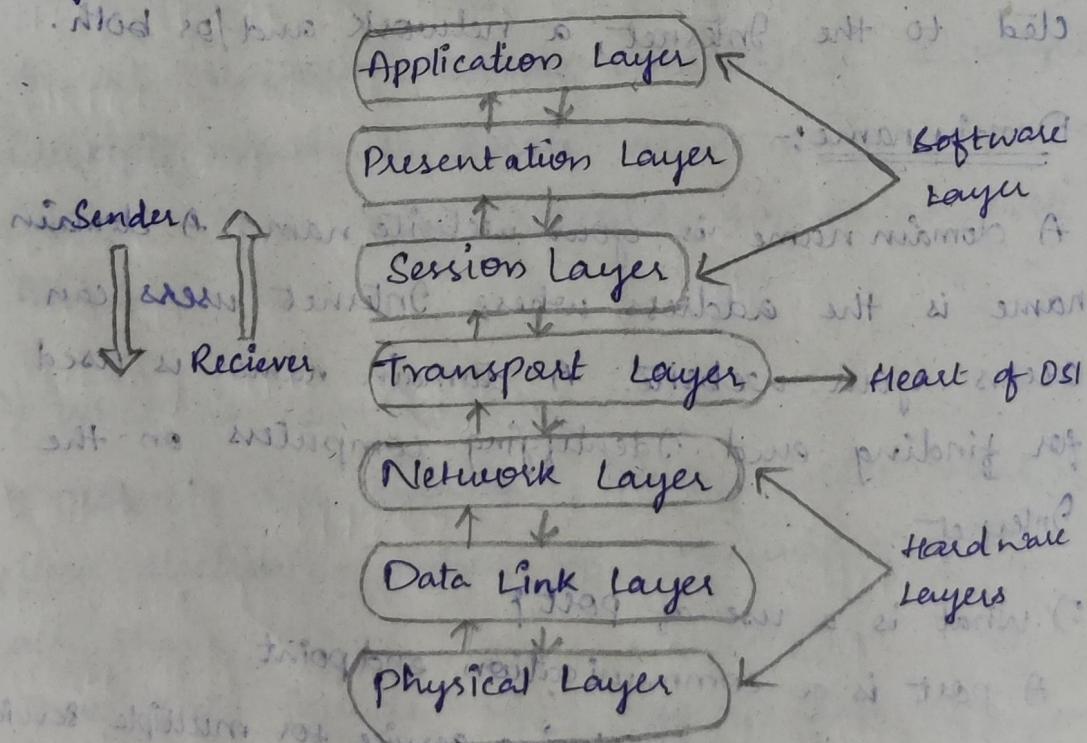
A port is a communication end point. port provide a multiplexing service for multiple services or multiple communication sessions at one network address.

6) What is DNS?

The Domain Name System (DNS) turns domain names into IP addresses, which browsers use to load internet pages. Every device connected to the Internet has its own IP address, which is used by other devices to locate the device.

7) What is OSI Reference model?

OSI stands for Open System Interconnection. It has been developed by ISO - International Organization for Standardization. It has 7 layers architecture with each layer having specific functionality to perform.



* Physical Layer (Layer 1) :-

Its function is to transmit individual bits from one node to another over a physical medium.

* Data Link Layer (Layer 2) :-

It is responsible for the reliable transfer of data frames from one node to another connected by the physical layer.

* Network Layer (Layer 3) :-

It manages the delivery of individual data packets from source to destinations through appropriate addressing and routing.

* Transport Layer (Layer 4) :-

It is responsible for delivery of the entire message from the source host to destination host.

* Session Layer

It establishes sessions between users and offers services like dialog control and synchronization.

* Presentation Layer:

It monitors syntax and semantics of transmitted information through translation, compression, and encryption.

* Application Layer

It provides high-level APIs (Application program interface) to the users.

8) What is TCP/IP Model?

The TCP/IP Model is a part of the Internet protocol suite. This model acts as a communication protocol for computer networks and connects hosts on the Internet. It is a concise version of the OSI Model and comprises four layers in its structure.

10th May 2022

9) What is HTTP?

HTTP stands for Hyper Text Transfer protocol. WWW is about communication b/w web client and servers.

Communication b/w client computers and web servers is done by sending HTTP Requests and receiving HTTP Responses.

2) What is HTTPS?

HyperText Transfer protocol Secure (HTTPS) is a protocol that secure communication and data transfer between a user's web browser and a website. HTTPS is the secure version of HTTP.

3) Quote few examples for protocol?

- * DHCP : Dynamic Host configuration protocol
- * DNS : Domain Name System protocol
- * FTP : File Transfer protocol
- * HTTP : Hyper Text Transfer Protocol
- * SMTP : Simple Mail Transfer Protocol

4) What is Encryption?

Encryption is the process of converting normal message (plain text) into meaningless message (cipher text).

5) What is Decryption?

Decryption is the process of converting meaningless message (cipher Text) into its original form (plain text).

6) What is the use of port?

Ports provide a multiplexing service for multiple services or multiple communication sessions at one network address. In the client- server model of application architecture, multiple simultaneous communication sessions may be initiated for the same service.

7) What are the default port for http and https?
The default HTTP and HTTPS ports for the web server are port 80 and 443, respectively.

11th May 2022

1) What is Private and Public IP?

Private IP address of a system is the IP address which is used to communicate within the same network. Using private IP data or information can be sent or received within the same network.

Range:- 10.0.0.0 - 10.255.255.255

172.16.0.0 - 172.31.255.255

192.168.0.0 - 192.168.255.255

Example:- 192.168.1.10

2) Public IP address of a system is the IP address which is used to communicate outside the network. Public IP address is basically assigned by the ISP (Internet Service Provider)

Range:- Besides private IP address, rest are public.

2) What is a Data Center?

A data center - also known as data center or data centre - is a facility composed of networked computers, storage systems and computing infra-

structure that organizations use to assemble, process, store and spread large amounts of data

3) Why do we have to maintain low temperature in a data center?

The purpose to maintain low temperature in a data center is to maintain environmental conditions suitable for information technology equipment (ITE) operation. Achieving this goal requires removing the heat produced by ITE and transferring that heat to some heat sink. In most data centers, the operators expect the cooling system to operate continuously and reliably.

4) Where can you apply or take a domain name?

- * Domain.com: Started in 2000, Domain.com is one of the most popular domain name registrars on the planet
- * Bluehost
- * Network Solutions
- * Host Gator
- * Go Daddy
- * Name cheap
- * DreamHost
- * Buy Domains.

12th May 2022

1) What is High Availability?

High Availability (HA) means that an IT system, component, or application can operate at a high level, continuously, without intervention, for a given time period. High-availability infrastructure is configured to deliver quality performance and handle different loads and failures with minimal or zero downtime.

2) What is a load balancer?

A Load balancer manages the flow of information between the server and end point device (PC, laptop, tablet or smartphone). A load balancer is a hardware or software solution that helps to move packets efficiently across multiple servers, optimizes the use of network resources and prevents network overloads.

3) What is Horizontal Scaling?

Horizontal Scaling involves adding more processing units or physical machines to your server or database. It involves growing the number of nodes in the cluster, reducing the responsibilities of each member node by spreading the key space.

wider and providing additional end-points for client connections.

4) What is Vertical Scaling?

Vertical Scaling refers to adding more resources (CPU / RAM / DISK) to your server (database or application server is still remains one) as on demand.

16th May 2022

1) What is Active active HA?

An Active-active cluster is typically made up of at least two nodes, both actively running the same kind of service simultaneously. The main purpose of an active-active cluster is to achieve load balancing.

2) What is Active passive HA?

The high availability software maintains a heartbeat which is a periodic signal from the active server to the passive server that indicates that the active server is operational. If the active server fails, the heartbeat also fails. The high availability software restarts all the services on the passive server.

3) What is Build Management?

Build Management is the process by which a software product for a company is built and managed. When a company uses Rational Synergy to control its code, the company gives the job of building and managing the software product to the build manager.

4) What is a Deployment?

Deployment in software and web development means pushing changes or updates from one deployment environment to another.

5) What is JAR, WAR and EAR?

JAR :- jar stands for 'java Archive' and is just a ordinary java application. There are even plugins which could make windows exe file out of jar file.

WAR :- war is 'Web Archive' and such files are working on web servers.

EAR :- ear is 'Enterprise Archive' java enterprise applications are stored in them and are working on java enterprise servers.

6) What are different environments available for testing an application?

- Performance Testing Environment
- System Integration Testing (SIT)
- User Acceptance Testing (UAT)
- Quality Assurance (QA)
- Security Testing.

24th May 2022

1) What are two types of Models in Cloud?

- * Public cloud :- These are managed by third parties which provide cloud services over internet to the public these services are available as pay-as-you-go billing models.
- * Private cloud :- These are distributed systems that work on private infrastructure and provide the users with dynamic provisioning of computing resources. Instead of a pay-as-you-go model in private clouds these could be other schemes that manage the usage of cloud and proportionally billing of the

different departments or sections of an enterprise

2) What is cloud?

The cloud refers to servers that are accessed over the internet, and the software and the databases that run on these servers.

3) What are SaaS, PaaS and IaaS?

* SaaS :- Software as a Service is a method for delivering on-demand software applications through cloud on a subscription basis.

* PaaS :- Platform as a Service refers to the supply of on-demand tools for developing, testing, delivering and managing software applications.

* IaaS :- Infrastructure as a Service contains the most basic building blocks for cloud infrastructure and offers services on top of it such as renting IT infrastructure and networking features.

4) What are Public, Private, Community cloud and Hybrid cloud?

Community cloud:- This deployment model is dedicated to multiple organizations in the same community, which means it is not public, open to anyone in need. However, it is also not private.

Hybrid cloud :- A hybrid cloud storage crosses the concepts of private and public cloud infrastructure together. When a hybrid cloud storage is used, critical data is stored in the organization's private cloud and the remaining data is stored in the public cloud.

5) What are advantages of cloud?

- Reduced costs, One of the most lucrative aspects of cloud migration is a remarkable reduction in infrastructural investment and operational costs.
- Scalability
- Disaster Recovery
- Mobility
- Data Security.