

CCA - 102 : Data Communications ASSIGNMENT

Q.1. What are the different types of Networks?

Ans. LAN (Local Area network)
PAN (Personal Area network)
MAN (Metropolitan Area Network)
WAN (Wide Area network)

Q.2. Explain the shielded twisted Pair (STP) and unshielded twisted Pair (UTP)

Ans. Shielded twisted Pair cable (STP) has the individual Pairs of wires wrapped in foil, which are then wrapped again for double protection. Unshielded twisted Pair cable (UTP) has each Pair of wires twisted together. These wires are then wrapped in tubing without any other protection.

Q.3. What is different between baseband and broadband transmission?

Ans. The difference between baseband and broadband is that the baseband transmission ~~the~~ ~~band~~ is that the baseband transmission ~~the~~ ~~band~~ uses the complete bandwidth for signals and occupies the whole cable. While in broadband transmission, at the same time, Baseband is a digital signal is transmitted on the medium using one of signal codes like NRZ RZ Broadband

System use Modulation techniques to reduce the effect of Noise in the environments.

Q.4. What is the difference a hub, Modem, router and a Switch?

Ans. A hub works on the Physical Layer (Layer 1) of OSI Model while Switch works on the data link layer (Layer 2).

A Switch can join multiple computers within one LAN and a hub just connects multiple Ethernet devices together as a single segment. Switch is smarter than a hub to determine the target of the forwarding data.

Q.5. When you move the NIC cards from one PC to another PC, does the MAC address get transferred as well?

Ans. Yes, that's because MAC addresses are hard-wired into the NIC circuitry, not the PC. This also means that a PC can have a different MAC address when another one replaces the NIC card.

Q.6. When troubleshooting computer network problems, what common hardware-related problems can occur?

Ans. A large percentage of a network is made up of hardware. Problems in these areas can range from malfunctioning hard drives, broken NICs and even hardware.

Q.7. In a network that contains two servers and twenty workstations, where is the best place to install an Anti-Virus program?

Ans. An Anti-Virus Program must be installed on all servers and workstations to ensure protection.

Q.8. Define Static IP and Dynamic IP Discuss the different between IPV and IPV6

Ans. When a device is assigned a static IP address the address does not change, most device use dynamic IP address, which are assigned by the network when they connect and change over time comparing IPV6 vs IPV4, IPV4 is 32 bit binary number IPV6 is 128 bit binary number address are separated by periods while IPV6 address are separated by colons.

Basic for differences	IPV4	IPV6
Number of header fields	12	8
Length of header fields	20	40

Q.9. Discuss TCP/IP Model in detail.

Ans. TCP/IP Reference Model is a four-layered suite of communication protocols. TCP stands for Transmission Control Protocols and IP stands for internet Protocol. The four layers in the TCP/IP Protocol Suite are - Host-to-Network layer - It is the lowest layer that is concerned with the physical transmission of data.

Q.10. What is a web Browser (Browser)? Give some

example of browsers.

Ans. → A web browser takes you anywhere on the internet. It retrieves information from other parts of the web and displays it on your desktop or mobile device. The information is transferred using the Hyper Text Transfer Protocol, which defines how text, images and video are transmitted on the web. Common web browsers include Microsoft Edge, Internet Explorer, Google Chrome, Mozilla Firefox, and Apple Safari. The primary function of a web browser is to render HTML - the code used to design or 'markup' web pages' (Tech Terms, 2014)

Q.11 What is search engine? Give example

Ans. A search engine is a software system that is designed to carry out web searches. They search the World Wide Web in a systematic way for particular.

1. Google : Google Search Engine is the best search engine in the world and it is also one of the most popular products from Google. It is one of the most used search engines world wide that is used with the Chrome browser.

2. Bing → Bing after Google is the best search engine example. Bing is operated and owned by Microsoft. Bing provides the user a variety of search services, like web, video, image and map search products.

3. Baidu $\rightarrow$ Baidu is the dominant internet search engine company in china. its features and services are similar to those of Google, but its focus is on china. Where it controls most of the search Market
4. Yahoo! $\rightarrow$ A Search engine is a web based tool that enables users to locate information on the world wide web. Popular example of search engines are Google, Yahoo! and msn search.
5. Yandex $\rightarrow$ Yandex search is a search engine. It is owned by yandex, based in Russia. In January 2018, yandex search generated 5-1.2% of all the search traffic in Russia according to Live Internet.
- Q.12. What is the internet and WWW? What are the uses of internet in our daily life?

Ans $\rightarrow$ Internet is a global network of networks. WWW stands for World Wide Web. Internet is a means of connecting a computer to any other computer anywhere in the world. World wide web which is a collection of information which is accessed via the internet. There are many uses of the internet, however. The use of the internet in our daily life depends on individual requirements and goals.

1. Uses of the Internet in Education $\Rightarrow$ The internet is a great platform for students to learn throughout their lifetime. They can use the internet to learn new things and even acquire degrees through online education programs.

2. Internet use to speed up Daily tasks $\Rightarrow$ The internet is very much useful in our daily routine tasks. For example, it helps us to see our notifications and emails. Apart from this, people can use the internet for money transfers, shopping order online, food, etc.

3. Use of the internet for Shopping $\Rightarrow$ With the help of the internet, anybody can order products online. The increase in online shopping has also resulted to companies offering a huge discount for their customers.

4. Internet for Research and Development $\Rightarrow$ The internet plays a pivotal role through internet research. The benefit of the internet is enjoyed by small businessmen to big universities.

5. Business promotion and innovation $\Rightarrow$ The internet is also used to sell products by using various e-commerce solutions. The result is new services and businesses starting every day there by creating job opportunities and reducing unemployment.

6. Communication $\Rightarrow$ Without a doubt, the internet is the most powerful medium of communication at

at present. it connects people across different parts of the world and fast.

7. Digital transactions → The internet facilitates internet banking, mobile banking, and e-wallets. Since all digital transactions are stored in a database it helps the government to track income tax details or income reports in the ITR.

8. Money management → The internet can also be used to manage money. Now there are many websites, applications, and other tools that help us in daily transactions, transfers, management, budget.

9. Tour and Travel → During tour and travel the use of the internet is highly effective as it serves as a guide. People browse the internet before they start visiting the places. Tour bookings can also be done using the internet.

Q.13 What is an internet Service Provider? Give some example of ISP is media.

Ans. → An Internet Service Provider is an organization, using, provides a myriad of services. For accessing Providers can be organised in the various forms such as a commercial, community-owned, non-profit, or otherwise privately owned. The examples of some internet service providers are Hathway, BSNL, Tata,

Teleservices, Verizon, Reliance, Jio, Airtel Fiber and many more working in India as well world wide.

Q.14. Discuss the difference between MAC address, IP address and Port address.

Ans. The main difference between MAC and IP address is that MAC address is used to ensure the physical address of the computer. It is uniquely used to ensure the physical address of the computer, identifies the devices on a network. While IP address are used to uniquely identify the connection of the network with that device taking part in a network.

15. How do we view my internet browser's history?

Ans. Step 1. Open the browser and click on the three dots and the History.

Step 2. Clicking on this will open up your browsing history with the most recent you have visited first. You can scroll down the list.

Step 3. From this list you can click on any page display to revisit. Alternatively if you click on the three buttons in the corner you get the options to open history page or clear browsing data.

Step 4. If you select open history page you can search the history using keyword in the search box or choose a date range. This is useful if you can remember the name of the site or approximately when you visited it.