CCA-102: DATA COMMUNICIONS ASSIGNMENT

1. *WHAT ARE THE DIFFERENT TYPES OF WORKS ?*

    a. local area network (land)..

    personal area network (pan) ..

    c. wireless local area network (wan) ..

    d. campus area network (can)..

    e. metropolitan area network (man)..

    f . metropolitan area network (wan)..

    g . storage area network (san) ..

    h . passive optical area network (plan)..

2. *Explain the shielded twisted pair (step) and untested pair (up)*

    Step:

Shielded twisted pair cabling acts as a conducting shield by covering the four pairs of signal carrying wires as a mean to reduce electromagnetic interference there are a variety of different types of step cables such as a foil twisted pair (ftp) and a shielded foil twisted pair (s/ftp) .

Up:

Up cable is type of copper cable widely used for networking purposes up can bless consist of pairs of insulated wires that are twisted to reduce inter ferrous and crosstalk they are commonly used in Ethernet network for transmitting data signal.

3. *What is difference between baseband and broad and transmission ?*

Basis of comparison	*Baseband transmission .*	*Broadband transmission*
Type of signal	*In base band transmission is bidirectional in nature*	*In broad band transmission the type of signalling used is analogy*
Direction type	*Baseband transmission is bidirectional in nature*	*Broad band trans mission is unidirectional in nature*
Signal transmission	*The signal can be sent in both directions ,*	*Sending of signal in one direction only*
Distance covered by the	*Signals can only travel over short*	*Signals can travelled over*

Basis of comparison	***Baseband transmission***	***Broadband transmission***
signal	***DISTANCES FOR LONG DISTANCES ATTENUATION IS REQUIRED***	***LONG DISTANCES WITHOUT BEING ATTENUATED***
Data streams	***IT CAN ONLY TRANSFER ONE DATA STREAM AT A TIME IN BI DIRECTIONAL MODE***	***IT CAN SEND MULTIPLE SIGNAL WAVES AT ONCE BUT IN ONE DIRECTION ONLY***
Installation maintenance	***BASEBAND TRANSMISSION IS EASY TO INSTALL AND MAINTAIN***	***BROADBAAD TRANSMISSION IS DIFFICULT TO INSTALL AND MAINTAIN***

cost	***THIS TRANSMISSION IS CHEAPER TO DESIGN***	***THIS TRANSMISSION IS EXPENSIVE TO DESIGN***

4. What is the difference between a hub mode router and a switch?

Routers - connect a modem to different computer networks ensuring that internet traffic goes to the right networks switches - connect devices within a single net work s switches - connect device within a network transfer incommoding and ***outgoing internet traffic between the connected devices gateway - regulate between two or more dissimilar net works .***

The key difference between hubs switches hubs switches and bridges is that hubs operate at layer 1 of the oust model while brides and switches and switches work mac addresses a 2, hubs broadcast incoming traffic on all ports whereas and switches only route traffic to wards their addressed destinations .

5. when you move the nice cards from one pc to another pc does the mac address gets trans ferried as well ?

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 the nice card was replace by another one .

6. when troubleshooting computer network problems what common hard ware - related problems can occur ?

Some network problems can arise from faulty hardware su ch as routers firewalls and even form unexpected usage like network band width spikes changes in app configuration or security breaches .

7. in a net work that contains two servers and twenty workstations where is the best place to install an anti - virus program ? .

In a network that contains two servers and twenty works tons the best place to install an anti - virus is on he server this is because the server is the main port for all the network traffic and so it is more important to ensure that the server is free of and virus other security risks .

8.define static imp and dynamic imp ? discuss the difference bet wean ipv4and ivy 6 .

Static lap addresses:

A computer on the internet can have a static lap address which means it stays the same over time or a dynamic lap address witch means the address can change overs time .

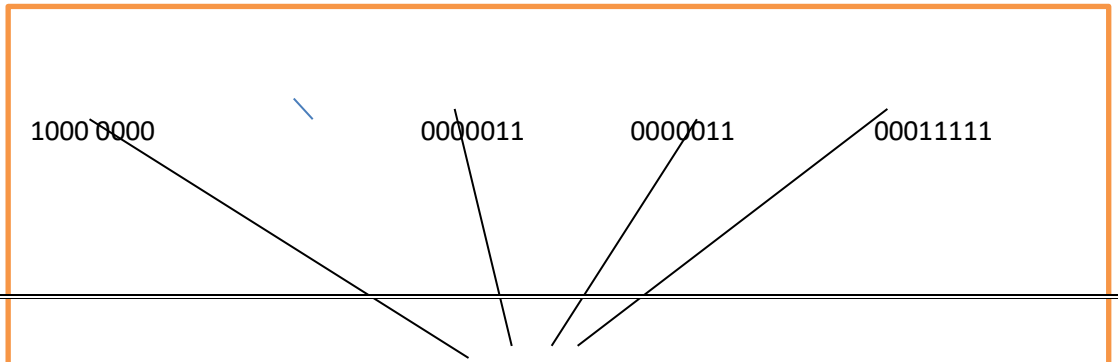
Dynamic lap :

a dynamic lap address is a temporary address for device connected to a network that continually changes over time an internet protocol (lap) address is a number by computers to identify host and network inter fasces as well as different location on a network .

difference between lap 4 and lap v 6 ,

lpv4:

lpv4 address consists of two things that are the net work address and the host address it stands for internet protocol version four it was introduced in 1981 by drape and was the first deployed version in 1982 for production on sat net and on the Arpanet in January 1983 l v4 addresses are 32 - bit integers that have it be expressed in decimal notation it is represented by 4 number s separated hay dots in the range of 0 - 255 . which have to be converted to 0 and 1 to be understood by computers for example an lap v4 is a 32 - bit address that comprises binary digits separated by a dot () .

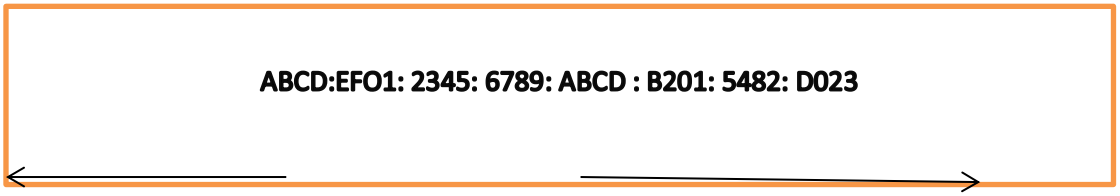


Lpv6:

Lpv6is based on lpv4 and stand s for internet protocol version 6 . it was first introduced in December 1995 by internet engineering task force lp version 6 is the new version of internet protocol which is way better than lp version 4 in terms of complexity and efficiency lp v6 is written as a group of 8 hexadecimal numbers separated by colon (:). It can be written as 128 bits of so and 1s.

Lpv6address format:

Lpv6address format is a 128 – lp address which is written in a group of 8 hexadecimal numbers separated by colon (:)



DIFFERNCE BETWEEN IPV4 AND LPV6 :

LPV4	*LPV6*
lpv4 has a 32 bit address length	*lpv6 has a 128 bit address length*
it supports manuals and duck address configuration	*It supports ante and renumbering address configuration*

In lap v4 end to end connection integrity is unachievable	*In lap v6 end to end connection integrity is achievable*
*It can generate 4.29*109 address space*	*He address space of IPv6 is quite large it can produce 3.4*1038 address space*
The security feature s dependent on the application	*IPSEC is an inbuilt security feature in the IPv6 protocol*
Address representation of IPv4 is in decimal	*Address representation of IPv6 is in hexadecimal*
Fragmentation performed by sender and forwarding routers	*In IPv6 fragmentation is performed only by the sender*
In IPv4 packet flow identification is not available	*N IPv6 packet flow identification are available and uses the flow label filed in the header*
In IPv4 checksum filed is available	*In IPv6 checksum field is not available*
It has a broadcast message transmission scheme	*In IPv6 multicast and any cast message transmission scheme is available*
In IPv4 Encryption and Authentication facility no provided	*In lap 6 encryption and authentication are provided*
Lap v4 has a header of 20 - 60 bytes	*Lpv6 has a header of 40 bytes fixed*
Lap v4 can be converted to lpv6	*Not all lpv6 can be converted to lpv4*
Lpv4 consists of 4 field which are separated by addresses dot (.)	*Lap v6 consists of 8 fields which are separated by a colon (.)*
Lap v4 s lap addresses are divided into five different classes class a class b class c class d class e	*Lap v6 does not support elms .*
Lpv4 supports elms (variable length subnet mask)	*Lap v6 does not support elms .*
Example of lap v4: 66. 94. 29 . 13	*2001.0000:3238: dfe1:0063 : 0000:fefb*

9. disuses top/lap model in detail .

Transmission control protocol (top) is a communications standard that enables application programs and computing device to exchange message over a network it is designed to network stop is one of the basic standard s that define the rules of the internet and is included within the standards defined by the internet engineering task force (it) it is one of the most. Commonly used protocols within digital network communications and ensures end - t0- end data delivery .

Top organise data so that be transmitted between a server and a client. It guarantees the integrity of the data being communicated over a network. Before it transmits data TCP establishes a connection between a source and its destination,

which it ensures remains live unit communication begins. It then branks large amounts of data into smaller packets, while ensuring data integrity is in place throughout the process. As a result, high-level protocols that need transmit data all use TCP protocol. Examples include peer-to-peer sharing methods like file Transfer protocol (FTR), Secure Shell (SSH), and Telnet. It is also used to send and receive email through Interne Message Access protocol (IMAP), Post Office Protocol (POP), and Simple Mail Transfer Protocol (SMTP), and for wed access through the Hypertext Transfer protocol (HTTP).

An alternative to top in networking is the user datagram protocol (up) which is used to establish low latency connections between applications and decrease trans missions time TCP, can be an expensive network tool as it includes absent or corrupted and protects data delivery with controls like acknowledgments connection start up and flow UDP .does not provide error connection or packet sequencing nor does it signal a destination before it less reliable but less reliable but less expensive as such it is a good option for time sensitive situations such as domain name system (dons) lookup voice over inter net protocol, (VOLP) and streaming media .

10. what is a web browser (browser) give some example of brewers

A web browser is a type of software that allows you to find view websites on the internet even if you didn't know it you t it you're using a web browser right now to read this page three are many different web browsers but some of the most common ones include Google chrome safari and Mozilla fire fox .

11, what is a search engine ? give example.

A search engine is a web based tool that enables users to locate information on the word wide web popular examples of search engines are goodle yahoo and MSN search .

12, what is he internet WWW ? what are the uses the uses of internet in our daily life ?

Internet :

The internet is a global net work of interconnected computers servers phones and smart appliances that communicate with each other using the transmission control protocol (TCP) standard to enable a fast exchange of inform motion and file s along with other types of services,

WWW:

World - wide web (also called www or w 3) is a hypertext - based information system any word in a hypertext document can be specified as a pointer to a different hypertext document where more information pertaining to that word can be found .

What the uses are of inter net in our daily life?

- ☞*Uses of the internet in education ..*
- ☞*Internet use to speed up daily tasks..*
- ☞*Use of the internet for shopping …*
- ☞*Internet for research &development..*
- ☞*Business promotion and innovation ..*
- ☞*Communication ..*
- ☞*vital transactions ..*
- ☞*Money management ..*

13, what is an of some internet service provider ? give some example of ISP in India ,.

The examples of some internet service prior vipers are hatchway BSNL that teleservices Verizon reliance join ACT fibered ant d many more working in India as well as world wide . internet service provides or ISP s are responsible for providing for using the internet .

14. DISCUSS THE DIFFERENCE MAC ADDRESS LP AND PORT ADDRESS:

Mac addresses are used to identify a nodes unique address whereas lp addresses are primarily used to identify a nodes connectivity to a network the MAC address is a hard ware based burnt in or physical address whereas the lp address is a software - based or logical address

15. How do we view my internet browsers history?

On your computer open chrome.

In the address bar enter @ history

Press tab or space you can also click search history in the suggestion s.

Enter keyword s for the page you previously visited

Select the page form the m list.