

## CCA-102: Data Communications

### ASSIGNMENT

Q1. What are the different types of networks?

Ans. Local Area Network(LAN), Personal Area Network (PAN), Wide Area Network (WAN)

Q2. Explain STP and UTP?

Ans. STP is a type of twisted pair which requires grounding cable. It is special kind of copper telephone and LAN wiring used in some business installation. UTP is a type of coppers cabling used in telephone wiring and LAN. UTP doesn't require grounding cable.

Q3. What is difference between baseband and broadband transmission?

Ans.

<b>baseband transmission</b>	<b>broadband transmission</b>
Digital signaling	Analog Signaling
Frequency division multiplexing is not possible	Transmission is unidirectional
Baseband is the bi-directional transmission	Signal travelling distance is long
A short-distance signal travelling	Frequency division multiplexing is possible
The entire bandwidth is for single transmission	Simultaneous transmission of multiple signals over different frequencies
Ex. Ethernet is using basebands for LAN	Ex.Used to transmit cable TV to premises

Q4.What is difference between a Hub, Modem, Router and a Switch?

Ans. A hub transmits data from one device to another in form of binary bits. A modem brings internet service into the house and a Router delivers the internet to the device in your home via Ethernet cable. A switch transmits data from one device to another in form of frames.

Q5.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

Q6. When troubleshooting computer network problems, what common hardware-related problems can occur?

Ans. Common hardware related problems are LAN card, WLAN card, Wi-Fi AP if its wireless, Cables, Swithes, Routers and wireless controllers.

Q7. In a network that contains two servers and twenty workstations, where is the best place to install an Anti-virus program?

Ans. The best solution is to install anti-virus on all the Computers in the network.

Q8. Define Static IP and Dynamic IP? Discuss the difference between IPV4 and IPV6.

Ans. Static IP address does not change any time, it means if a address is provided then it can't be changed

Dynamic IP addresses, which are assigned by the network when they connect and change over time

IPV4- IPV4 address consists of two things that are the network address and the host address.

IPV6- IPV6 is based on IPV4 and stands for Internet Protocol Version 6. It is written as a group of 8 hexadecimal numbers separated by colon.

Q9. Discuss TCP/IP model in detail.

Ans. TCP/IP was designed and developed by the DoD in 1960 and is based on the standard protocols. It stands for Transmission Protocol/Internet Protocol. The TCP/IP model is concise version of OSI model. Internet architecture is based on the specification of the standard TCP/IP protocol, designed to connect any 2 networks which may be very different in internal hardware, software, and technical design. The main work of TCP/IP is to transfer the data of a computer from one device to another. TCP/IP model divides its data into packets and combines them at the other end , which helps in maintaining the accuracy of the data while transferring.

Q10. What is a Web Browser (Browser)? Give some example of browsers.

Ans. A Web Browser is an application for accessing websites.

Ex. Google Chrome, Mozilla Firefox, Safari

Q11. What is a search engine? Give example.

Ans. A search engine is a web-based tool that enables users to locate information on the World Wide Web. Ex. Google, Yahoo

Q12. What is the Internet & WWW? Internet is a global network of networks. WWW stands for world wide web it is an information space where documents and other web resources are identified by uniform resource Locators.

Q13. What is an Internet Service Provider? Give some example of ISP in India.

Ans. ISP is a company that provides access to the internet. Ex.Airtel, BSNL, Jio,..etc.

Q14. Discuss the difference between MAC address, IP address and Port address.

Ans. Mac address is used to ensure the physical address of a computer

IP Address is the logical address of the computer Port addressing refers to using the port numbers assigned to every process to exchange data between them.

Q15. How do we view my Internet browser's history?

Ans. 1. Open Chrome/Internet Browser

2. At the right top, click more

3. Click history

4. View history

# Data Communications

## Assignment

1) What are the different types of network?

Local Area Network (LAN),

Personal Area Network (PAN),

Wide Area Network (WAN),

Metropolitan Area network (MAN).

2) Explain STP & UTP.

Ans. ~~Shielded~~ twisted pair is a type of twisted pair which requires grounding cable. It is special kind of copper telephone and LAN wiring used in some business installation.

Unshielded twisted pair is a type of copper cabling used in telephone wiring and local area network. UTP doesn't require grounding cable.

3) What is difference between baseband & broadband transmission?

Baseband transmission:-

1) Digital signaling

2) Frequency division multiplexing is not possible

3) Baseband is the bi-directional transmission

4) A short-distance signal travelling.

5) The entire bandwidth is for single transmission.

Ex:- Ethernet is using basebands for LAN.

Broadband transmission:-

1) Analog signalling

2) Transmission is unidirectional

3) Signal traveling distance is long.

4) Frequency division multiplexing is possible.

5) Simultaneous transmission of multiple signals over different frequencies.

Ex:- Used to transmit cable TV to premises.

4) What is difference between a hub, modem, router & a switch?

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A modem transmits (or) brings internet service into the home & the router delivers the internet to the devices in your home via Ethernet cable.

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The best solution is to install anti-virus on all the computers in the network.

8) Define static IP & Dynamic IP? Discuss difference between IPV4 & IPV6.

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Dynamic IP addresses, which are assigned by the network when they connect & change over time.

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Ans. A web browser is an application for accessing websites.  
Ex: Google Chrome, Mozilla Firefox, Safari.

11) What is a search engine? Give example.

A search engine is a web-based tool that enables users to locate information on the World Wide Web.

Ex: Google, Yahoo.

12) What is the Internet & WWW? What are the uses of Internet in our daily life?

A. Internet is a global network of networks.

WWW stands for World Wide Web. It is an information space where documents & other web resources are identified by Uniform Resource Locators.

13) What is an Internet Service Provider? Give example.

ISP is a company that provides access to the Internet.

Ex: Airtel, BSNL, Jio, etc.

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

MAC address is used to ensure the physical address of a computer.



IP address is the logical address of the computer

Port addressing refers to using the port numbers assigned to every process to exchange data between them.

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- 1) Open Chrome (or) Internet browser.
- 2) At the right top, click more.
- 3) Click history
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