CCA-102 : Data Communications

Assignment

Q. What are the different Types of network?

ANS A group of computer which are connected to each other and following similar usage protocols for their purpose of sharing information and having communications provided by the networking nodes is called a computer Network.

Types of computer Network.

There are five main Types of computer Network:

1. LAN (Local Area Network)
2. PAN (Personal Area Network)
3. MAN (Metropolitan Area Network)
4. WAN (wide Area Network)
5. VPN (Virtual Private Network)

Q.2 Explain the shielded Twisted pair (STP) and unshielded Twisted pair (U.T.P).

ANS

STP and UTP Cables

Sheielded Twisted pair Cable (STP) has the individual pair 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. Those wires are Then wrapped in Tubing without any other protection.

Q3 What is differente beTween base band and broadband Transmission.

ANS

Base band	Broadband
○ Communication is bidirectional	Communication is unidirectional.
○ uses digiTal signals.	uses analog Signals.
○ Signals can be seNT for shorT disTances.	signals can be sent for Long disTance.
○ works with bus Topology	works with Tree ans bus Tropology.
○ use in ETherneT	use in telephone networks

Q4 WhaT is The differenT beTween, hub, Modem, rouTre and a switch

ANS

Hub	Switch	Router
• Work in half Duplex mode	• full Duplex	• Full Duplex
• Senders data is form of biTs.	• Sender DaTa in form of frames.	• Sender daTa in form of RacketS.
• Broad CasT Device	• MulTicasT device	• RouTing device.

• Works in physical layer of OSI model.	• Work in Data link / Network ~~layers of OSI Model~~	• Works in Network Layer of OSI Model.
• used To connect devices To The same Networks.	• layers of OSI Model used To connect device To The Net.	• used To connect Two Network.
• Does not Store any MAC Address of a Mode in The network	• Store MAC address. address And IP address of modes in The Network	• Stores MAC address and IP address in The Network.
• Types are - Active Hub, passive Hum and Intelligent Hub.	• Type are Layer. 2 and 3 switch	• Type are Broadband router, wireless, Edge, Core router.

8.5 When you Move The NIC cards from one PC To another PC. does The MAC address gets 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 The NIC card was replace by another one.

8.6 When Trouble shooting Computer Network problems, What Common hardware - related problem can occur?

ANS

Most Common Hardware related problem are Bad

LAN Card. WLAM Card and Wi-Fi if it is wireless Cables, Switches, Router and wireless Controller. Most problem are hardware related, a faulty power Cable or power supply unit. Sometimes RAM Neids To be upgrade or VGA Cable is not properly Connected.

Q.7. In a Network That Contains Two Servers and Twenty Workstations. To install an anti-virus program.

ANS The best solution is To install anti virus on all The Computers in The network.

Q.8. Define STatic IP and Dynamic IP? Discuss The difference between IPV4 and IPV6.

ANS

STATIC IP	Dynamic IP
• Manually assigned by user or network administor.	• Automatically assigned by DHCP server
• you needs To know your stuffs: like what's The usable Ip Address range The gateway IP, DNS IP etc.	• DHCP serve provides The host IP: while doing so it also informs about The router IP and DNS, IP.
• When There is any Networks Changes, you need To manually Change The IP address.	• DHCP automatically Renew The IP lease/assign new IP when network Changes.

IPV4	IPV6
Deployed 1981	Deployed 1998
32 bit IP address	128 bit IP address
4.3 billion addresses Addresses Must be revised and Masked	7.9×10^{28} addresses Every device can have a unique address
Numeric dot-decimal nalation	Alphanumeric hexadecimal notation
DHCP or Manual Configuration	Supports auto Configuation.

Q.9 Discuss TCP/IP Model in detail.

ANS TCP/IP allows Computers on the same network To identify and communicate with each other. TCP/IP is a Two-layer protocal, with the Transport layer (TCP) responsible for reliable end-To-end communication and the internet layer (IP) accountable for routing packets from the host To the host.

Q.10 What is a web Browser < Browser ? Give Some example of browers.

ANS

A Coeb browser, or simply browsers is an application used To access and view wesbsits.

Example :- Microsoft Edge, Internet explorer, Google chrome, Mozilla fire fox and apple Safari.

Q.11 What is a Search engine? Give Example.

ANS

A ~~Search~~ Search engine is a web-based Tool That enables users To locate information on The world wide web. popular ~~ex~~ Example of Search Engines are Google, Yahoo! and N.S.N Search.

Q.12 What is The Internet & W.W.W? what are The uses of internet in our daily life?

ANS

The Internet helps us with facts and figures information and knowledge for personal/social and economic development.

Q.13 How do we view my Internet browers History?

ANS

1. Go To your Google account
2. on The left navigation pand, Click Data & privacy
3. ~~W~~ under "History setting", Click My activity.
4. To view your activity: browse your activity.

Q.14 Discuss The difference between MAC address, IP address and port address.

ANS

A MAC Address is responsible for local identification for local identification and an IP address for global identification.

Q.15 What is an internet service provider? Give some example of ISP in India.

ANS

An Internet service provider (IPS) is a company such as AT&T, Verizon, ComCast, or Spectrum that provides internet access to companies, families, and even mobile users, ISPs use fiber-optics, satellite. copper wire and other forms to provide internet access to its customes.

Example - Jio, Airtel, VI, BSNL