

## **CCA-102: Data Communications – ASSIGNMENT**

### **1. TYPES OF INTERNET**

- PAN (Personal Area Network)
- LAN (Local Area Network)
- MAN (Metropolitan Area Network)
- WAN (Wide Area Network)

2.

#### **a. Shielded twisted pair (STP)**

Shielded twisted pair cabling acts as a conducting shield by covering the four pairs of signal-carrying wires as a means to reduce electromagnetic interference. There are a variety of different types of STP cables, such as a foil twisted pair and a shielded foil twisted pair

#### **b. UTP stands for Unshielded Twisted Pair cable**

UTP cable is a 100 ohm copper cable that consists of 2 to 1800 unshielded twisted pairs surrounded by an outer jacket. They have no metallic shield. This makes the cable small in diameter but unprotected against electrical interference.

### **3. Difference Between Baseband And Broadband Transmission**

Baseband transmission is a data transmission technique in which one signal needs the whole bandwidth of the channel to transfer the data. In contrast, broadband transmission is a transmission technology in which many signals with different frequencies send data across a single channel at the same time.

### **4. Difference between a hub, modem, router and a switch**

A hub is a basic device and simply works as a broadcaster when it comes to data transmission. It transmits data in the form of electrical signals. A router sends data in the form of a packet and uses the IP address for data transmission. Hub is operated on Physical layer of OSI model. While switch is operated on Data link layer of OSI Model. Hub is a broadcast type transmission. While switch is a Unicast, multicast and broadcast type transmission.

5. 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 replaced by another one.

6. Most common hardware related problems are PaBX, LAN Card, WLAN Card and Wi-Fi AP if it is wireless, Cables, Switches, Routers and Wireless Controllers. Most problems are hardware related, a faulty power cable or power supply unit. Sometimes RAM needs to be upgraded or VGA cable is not properly connected.

7. It is not possible to run two antivirus programs simultaneously on a single computer. Even though users may be tempted to try to implement what they might regard as 'dual protection', there are good reasons why trying to operate two different antivirus products will normally cause difficulties.

#### 8. Difference between Static and Dynamic IP Address

DHCP (Dynamic Host Configuration Protocol) is used to generate dynamic IP Address. Static IP address does not get changed with time. Dynamic IP address can be changed any time. Static IP Address is less secured.

9. The TCP/IP model is a four-layer model that divides network communications into four distinct categories or layers. The model is often referred to as the TCP/IP stack. The four important layers are the application layer, the transport layer, the network layer, and the link layer.

10. A web browser is a type of software that allows you to find and view websites on the Internet. Even if you didn't know it, you're using a web browser right now to read this page! There are many different web browsers, but some of the most common ones include Google Chrome, Safari, and Mozilla Firefox.

11. A search engine is a software program that helps people find the information they are looking for online using keywords or phrases. Search engines are able to return results quickly even with millions of websites online by scanning the Internet continuously and indexing every page they find.

- ❖ Google.
- ❖ Bing.
- ❖ Yahoo!
- ❖ Yandex.
- ❖ DuckDuckGo.
- ❖ Baidu.
- ❖ Ask.com.
- ❖ Naver.

12.

- ❖ Online Booking & Orders. ...
- ❖ Cashless Transactions. ...
- ❖ Education. ...
- ❖ Online Banking & Trading. ...
- ❖ Research. ...
- ❖ Electronic Mail. ...
- ❖ Job Search. ...
- ❖ Social Networking.

13. An Internet Service Provider (ISP) is a company such as AT&T, Verizon, Comcast, or Spectrum that provides Internet access to companies, families, and even mobile users.

## **Bharat Sanchar Nigam Limited (BSNL)**

The company provides mobile voice and internet services nationwide through its telecommunications network across India. In addition, it is the largest government-owned wireless telecommunications service provider in India.

14. MAC Address stands for Media Access Control Address. IP Address stands for Internet Protocol Address. MAC Address ensure that physical address of the computer is unique. IP Address is a logical address of the computer and is used to uniquely locate computer connected via a network. An IP address identifies a machine in an IP network and determines the destination of a data packet, while port numbers identify particular applications or services on a system. The port numbers will be shown after the IP address and the two are separated by a colon. For instance, if your IP address is something like 192.168. 45.2 and you're being displayed an entry for 192.168. 45.2:57961, it means the port number 57961 is open and possibly in use.

## **15. History**

- a. On your computer, open Chrome.
- b. In the address bar, enter @history .
- c. Press tab or space. You can also click Search History. in the suggestions.
- d. Enter keywords for the page you previously visited.
- e. Select the page from the list.