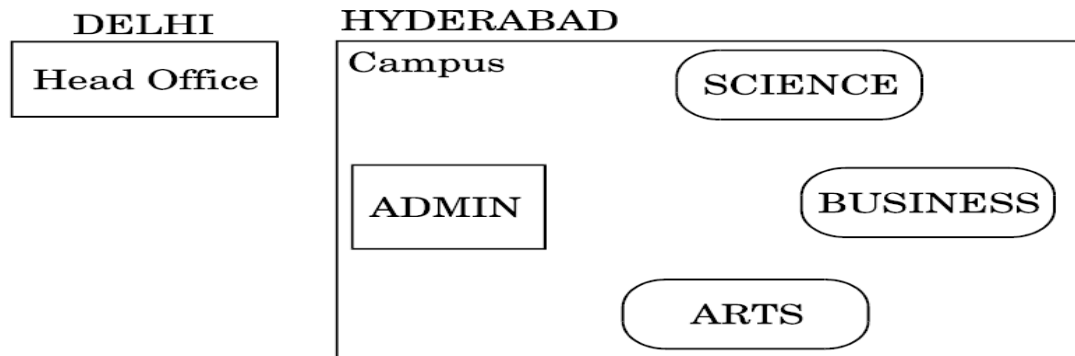


COMMUNICATION AND NETWORK CONCEPTS

4 Marks Questions

1. XcelenciaEdu Services Ltd. is an educational organization. It is planning to set up its India campus at Hyderabad with its head office at Delhi. The Hyderabad campus has 4 main buildings - ADMIN, SCIENCE, BUSINESS and ARTS. You as a network expert have to suggest the best network related solutions for their problems raised in (i) to (iv), keeping in mind the distances between the buildings and other given parameters.



Shortest distances between various buildings :

ADMIN to SCIENCE	65 m
ADMIN to BUSINESS	100 m
ADMIN to ARTS	60 m
SCIENCE to BUSINESS	75 m
SCIENCE to ARTS	60 m
BUSINESS to ARTS	50 m
DELHI Head Office to HYDERABAD Campus	1600 Km

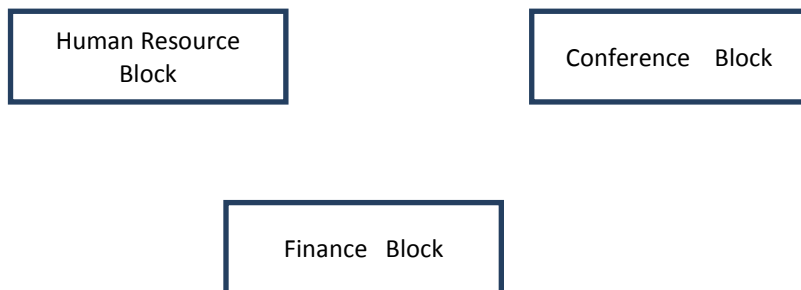
Number of computers installed at various buildings are as follows :

ADMIN	100
SCIENCE	85
BUSINESS	40
ARTS	12
DELHI Head Office	20

- (i) Suggest the most appropriate location of the server inside the HYDERABAD campus (out of the 4 buildings), to get the best connectivity for maximum number of computers. Justify your answer.
- (ii) Suggest and draw the cable layout to efficiently connect various buildings within the HYDERABAD campus for connecting the computers.
- (iii) Which hardware device will you suggest to be procured by the company to be installed to protect and control the internet uses within the campus ?
- (iv) Which of the following will you suggest to establish the online face-to-face communication between the people in the Admin Office of HYDERABAD campus and DELHI Head Office ?
 - a) E-mail
 - b) Text Chat
 - c) Video Conferencing
 - d) Cable TV

2. Trine Tech Corporation (TTC) is a professional consultancy company. The company is planning to set up their new offices in India with its hub Hyderabad. As a network advisor, you have to understand their requirement and suggest them the best available solutions. Their queries are mentioned as (i) to (iv) below.

Physical locations of the blocks of TTC



Block to block distance(in m.)

(Block From)	Block (To)	Distance
Human Resource	Conference	110
Human Resource	Finance	40
Conference	Finance	80

Expected number of computers to be installed in each block

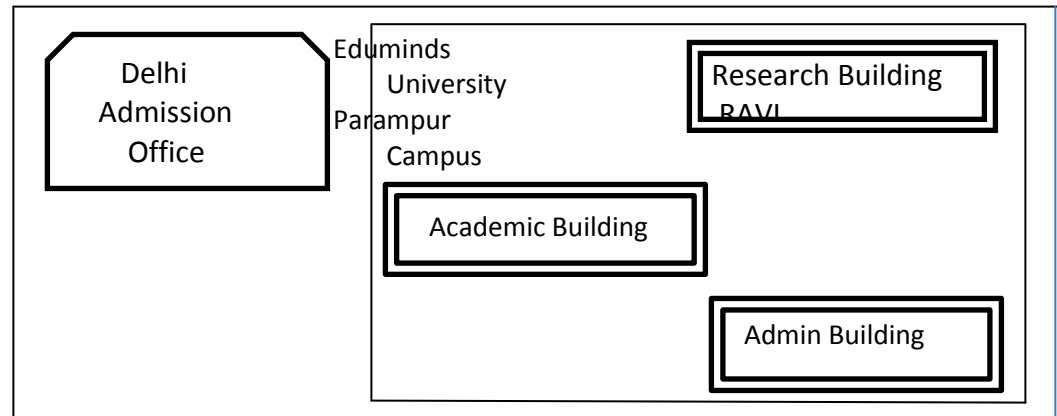
Block	Computers
Human Resource	25
Finance	120
Conference	90

- (i) What will be the most appropriate block, where TTC should plan to install their server?
- (ii) Draw a block to block cable layout to connect all the buildings in the most appropriate manner for efficient communication.
- (iii) What will be the most possible connectivity out of the following, you will suggest to connect the new setup of offices in Bangalore with its London based office.
 - Satellite Link
 - Ethernet
 - Infrared
- (iv) Which of the following device will be suggested by you to connect each computer in each of the buildings?
 - Swtich

- Modem
- Gateway

3. Eduminds University of India is starting its campus in a small town Parampur of Central India with its centre admission office in Delhi. The University has three major buildings comprising of admin building academic buildings and research building in 5 km area campus.

As a network expert, you need to suggest the network plan as per (i) to (iv) to the authorities keeping in mind the distances and other given parameters.



Expected wire distance between various locations

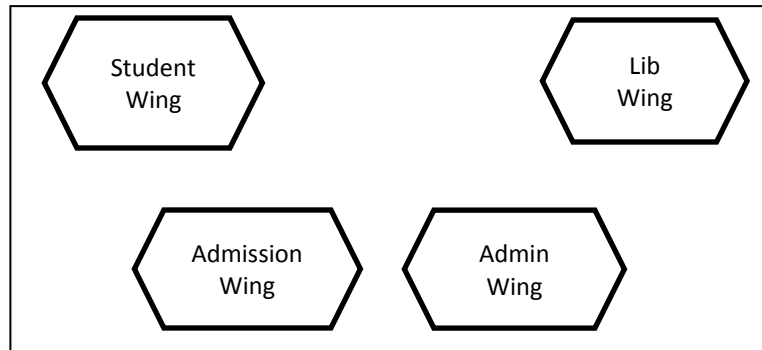
Research Building to Admin Building	90 m
Research Building to Academic Building	80 m
Academic Building to Admin Building	15 m
Delhi Admission Office to Parampur	1450 km

Expected numbers of computers to be installed at various locations in the university are as follows:

Research Building	20
Academic Building	150
Admin Building	35
Delhi Admission Office	5

- Suggest the authorities, the cable layout amongst various buildings inside the university campus for connecting the buildings.
- Suggest the most suitable place (i.e. building) to house the server of this organization, with a suitable reason.
- Suggest an efficient device for the following to be installed in each of the building to connect all the computers
 - Gateway
 - Modem
 - Switch
- Suggest the most suitable (very high speed) service to provide date connectivity between admissions building located in Delhi and the campus located in Parampur form the following options:
 - Telephone line
 - Fixedline dial-up connection
 - Coaxial cable network
 - GSM
 - Leased line
 - Satellite connection

4. Institute of Distance Learning is located in Pune and is planning to go in four networking in four wings for better interaction. The details are shown below:



The distance between various wings

Student Wing to Admin Wing	150 m
Student Wing to Admission Wing	100 m
Student Wing to Lib Wing	325 m
Admission Wing to Admin Wing	100 m
Admission Wing to Lib Wing	125 m
Admin Wing to Lib Wing	90 m

Number of computers

Student Wing	225
Admission Wing	50
Admin Wing	10
Lib Wing	25

- (i) Suggest the type of networking (LAN, MAN, WAN) for connecting Lib Wing to Admin Wing justify your answer.
- (ii) Suggest the most suitable place (i.e. wing) to house the server, with a suitable reason.
- (iii) Suggest and placement of the following devices with reasons
 - (a) Repeater
 - (b) Switch
- (iv) The institute is planning to link its study centre situated in Delhi. Suggest an economic way to connect it with reasonably high speed justify your answer.

1 mark Questions

1. Define a network. Why do we need network?
2. Define the following terms: (i) Node (ii) Workstation
3. Define the following terms: (i) server (ii) NIU
4. What are the uses of microwave signals?
5. Define the following: (i) Data channel
6. Define the following: (i) Baud
7. Define the following (i) Bandwidth
8. What is a Gateway?
9. What do you mean by a backbone network?
10. What do you understand by GSM?

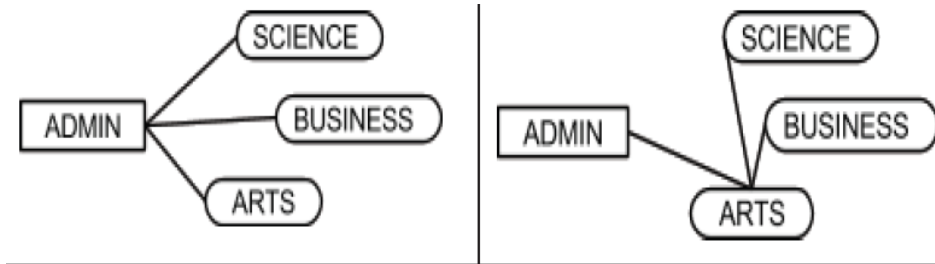
11. What is CDMA?
12. What is WLL?
13. What are 3G and EDGE technologies?
14. Define the following: (i) Hub (ii) Switch.
15. What is RJ-45 connector?
16. What are cookies?
17. What is Telnet?
18. Give the full form for the following: (i) MODEM (ii) FTP
19. What are repeaters?
20. What are routers?
21. What is the purpose of using FTP?
22. What is URL?
23. What is HTML.
24. What is DHTML.
25. What is XML?
26. What is difference between HTML and XML?
27. What is firewall?
28. What are cookies?
29. Who are hackers? Who are crackers.
30. What do you understand by Cyber Law?
31. What are non-dedicated servers?
32. What is dedicatedserver?
33. What is 80-20 rule of network design?
34. Which of the following is not a broadcast device?
35. Write the characteristics each for 2G and 3G mobile technologies.
36. What is the difference between the video conferencing and Chat?
37. Expand the following: (i) GPRS
38. Write the two characteristics of Wi-Fi.
39. What is the difference between e-mail and chat?
40. Which type of network(out of LAN, PAN and MAN) is formed, why you connect two mobiles using Bluetooth to transfer a picture file?
41. Write names of any two popular open source software, which are used as operating.
42. Write any two important characteristics of cloud computing.
43. Write two advantages of using open source software over proprietary software.
44. Which of the following crime(s) does not come under cybercrime?
 - (i) Copying some important data from a computer without taking permission from the owner of the data.
 - (ii) Stealing keyboard and mouse from a shop.
 - (iii) Getting into unknown person's social networking account and start messaging on his behalf.
45. What is the difference between HTTP and FTP?
46. What is the difference between domain name and IP address?
47. Write two advantages of using an optical fibre cable over an Ethernet cable to connect two service stations, which are 190 m away from each other.
48. Write two advantages of using proprietary software over open source software.
49. What is the difference between packet switching and circuit switching techniques?
50. (i) Expand the following abbreviations: (a) HTTP (b) VoIP

51. Name one commonly used open source Internet browser and one commonly used open source operating system.
52. Which of the following crime(s) is/are covered under cybercrime?
 - (i) Stealing brand new hard disk from a shop.
 - (ii) Getting into unknown person's social networking account and start messaging on his behalf.
 - (iii) Copying some important data from a computer without taking permission from the owner of the data.
53. What out of the following, you will use to have an audio visual chat with an expert sitting in a far away place to fix-up technical issue?
 - (i) e-mail
 - (ii) VoIP
 - (iv) FTP
54. Name the client side scripting language and one server side scripting language.
55. Which out of the following does not come under cyber crime?
 - (i) Stealing a mouse from someone's computer.
 - (ii) Operating someone's Internet banking account without his knowledge.
 - (iv) Entering in someone's computer remotely and copying data, without seeking his permission.
56. Write one advantage of star topology of network? Also, illustrate how 5 computers can be connected with each other using star topology of network.
57. Give one suitable example of each URL and Domain name.
58. Name the two open source software along with its application.
59. Which of the following come under cyber crime?
 - (i) Operating someone's Internet banking account, without his knowledge.
 - (ii) Stealing a keyboard from someone's computer.
 - (iii) Working on someone's computer his/her permission.
60. Write one advantage of bus of network. Also, illustrate how four computers can be connected with each other using star topology of network.
61. Name two proprietary software along with their application.
62. Message switching technique in network communication.
63. Differentiate between bus and star topology of networks.
64. Out of the following identity client side script(s) and server side scripts(s).
 - (i) ASP (ii) Java script (iii) VB script (iv) JSP
67. In networking, what is WAN? How is it different from LAN?
68. Differentiate between XML and HTML.
69. What is web 2.0?
70. What is the function of modem?
71. Name any two components required for networking?
72. What are repeaters?
73. What was the role of ARPANET in the computer network?
74. Which of the following is not a unit for data transfer rate?
 - (i) Bps (ii) Abps (iii) Gbps (iv) Kbps
75. What is the difference between Trojan horse and virus in terms of computer?
76. What term we use for a software/hardware device, which is used to block, unauthorized access while permitting authorized communications. This term is also used for a device or set of devices configured to permit, deny, encrypt, decrypt, or proxy for all (in and out) computer traffic between different security domains based upon a set of rules and other criteria.

77. Write the full forms of the following. (i) GNU (ii) XML
78. Which of the following is not a unit for data transfer rate?
(i) Mbps (ii) Kbps (iii) Sbps(iv) Gbps
79. What is the difference between virus and worms in the computer?
80. Write the full forms of the following: (FSF)
81. Name any two common web browsers:
82. What is protocol? Which protocol is used to search information from internet using an internet browser?
83. Name the two switching techniques used to transfer data between two terminals (computers).
84. What is the difference between LAN and WAN?
85. Expand the following abbreviations: (i) HTTP (ii) ARPANET
86. Distinguish between web site and web browser?
87. What is Firewall?
88. How is coaxial cable different of optical fibre?
89. How is hacker different from a cracker?
90. Write two advantage and disadvantage of networks.
91. What is ARPAnet ? What is NSFnet ?
92. What do you understand by InterSpace?
93. Name two switching circuits and explain any one.
94. What is communication channel? Name the basic types of communication channels available.
95. What are the factors that must be considered before making a choice for the topology?
96. What are the similarities and differences between bus and tree topologies?
97. What are the limitations of star topology?
98. When do you think, ring topology becomes the best choice for a network?
99. Write the two advantages and two disadvantages of Bus Topology in network.
100. Briefly mention two advantages and two disadvantages of Star Topology in network.
101. Write two disadvantages of twisted pair cables.
102. What is remote login?
103. What is structure of an E-mail message?
104. What is web scripting?

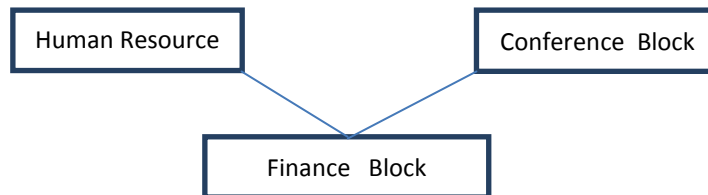
COMMUNICATION AND NETWORK CONCEPTS

1.
 - (i) ADMIN (due to maximum number of computers)
OR
ARTS (due to shorter distance from the other buildings)
 - (ii) Any one of the following



- (iii) Firewall OR Router
 - (iv) c) Video Conferencing

2.
 - (i) TTC should install its server in finance block as it is having maximum number of computers.
 - (ii)

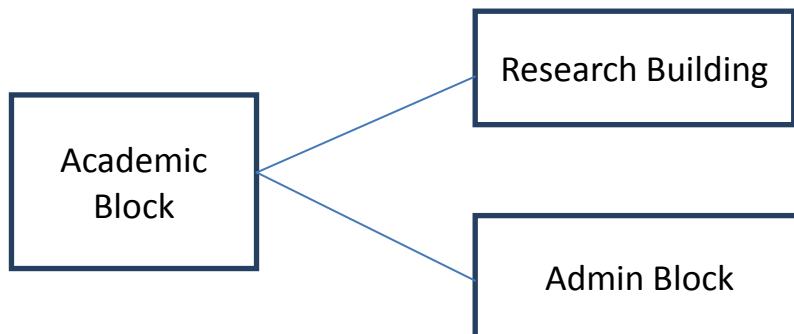


The above layout is based on minimum cable length required which is 120 m in the above case.

(iii) Satellite Link.

(iv) Switch.

3. (i)

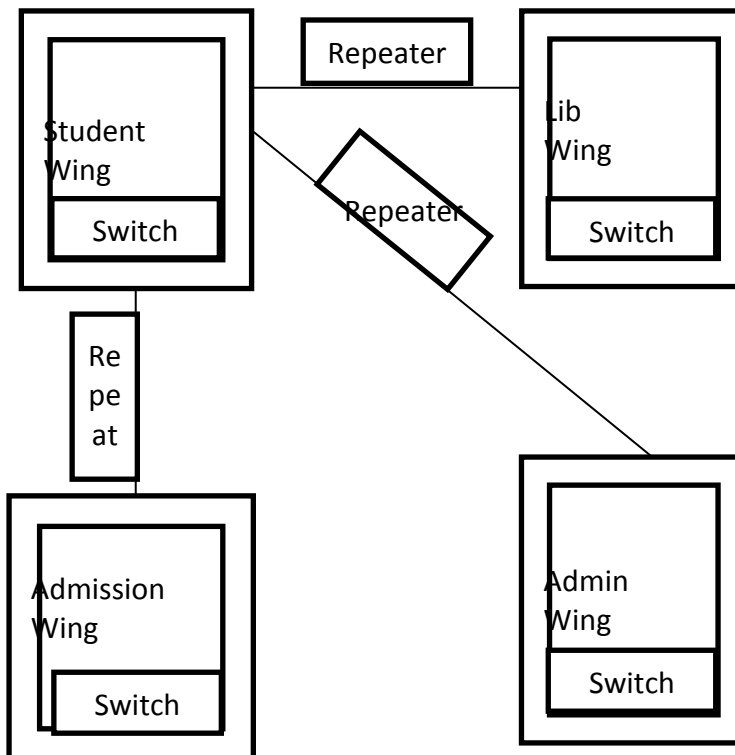


(ii) The most suitable place to house the server is Academic Building as it has maximum number of computers. Thus, it decreases the cabling cost and increase efficiency of network.

(iii) Switch is to be installed in each of building to connect all the computers.

(iv) Satellite connection.

4. (i) Since, the distance between Lib Wing and Admin Wing is small, so type of networking is small i.e. LAN.
- (ii) Since, maximum numbers of computers are in student Wing, so suitable place to house the server is Student Wing.
- (iii) Repeater should be installed between Student Wing and Admin Wing as distance is more than 60 m. Switch should be installed in each Wing to connect several computers.



- (iv) Broad band connection as it is between economical and speedy.

Answers to 1 mark Questions

1. A network is an interconnected collection of autonomous computers. We need network to share various resources (RRRCS).
2. (i) **Node**. A computer that is attached to a network is known as node.
(ii) **Workstation**. A node is also called workstation and intended to run users program.
3. (i) **Server**. A computer that facilitates resource sharing on a network.
(ii) **NIU**. NIU means Network Interface Unit. It is an interpreter that helps establish communication between the server and the work stations.
4. Microwave signals are an example of unguided media used to transmit data without the use of cables. These signals prove cheaper than dragging trenches for laying cables and their maintenance.
5. (i) A data channel is the medium used to carry information or data from one point to another.
6. (i) **Baud** is the unit of measurement for the information carrying capacity of a communication channel. It is synonymous with bps (bits per second).

7. (i) **Bandwidth** – it refers to the difference between the highest and lowest frequencies of transmission channel. The term is also sometimes used to refer to the amount of information travelling through a single channel at any one point of time.
8. A gateway is a device that connects dissimilar networks.
9. A backbone network is a network that is used as a backbone to connect several LANs together to form a WAN.
10. **GSM** stands for *Global System for Mobile Communications*. GSM is a technique that uses narrowband TDMA (Time Division Multiple Access) to allow eight simultaneous calls on same radio frequency.
11. **CDMA** stands for *Code Division Multiple Access* which is a digital cellular technology that uses spread spectrum technique. Spread-spectrum is a technique in which data is sent in small pieces over a number of discrete frequencies available for use. Each user's signal is spread over the entire bandwidth.
12. **WLL** refers to Wireless in Local Loop. It is a system analogous with local telephone service that provides telephony by deploying a multicity of multichannel transceivers.
13. **3G** is a specification for *third generation* of mobile communications technology. 3G promises bandwidth of up to 384 Kbps when a device is stationary, 128 Kbps in a car and 2 Mbps in fixed applications.
EDGE – *Enhanced Data rates for Global Evolution* is a radio based high-speed mobile data standard that allows data transmission speeds of 384 Kbps to be achieved when all eight timeslots are used.
14. **Hub** is a hardware device used to connect several computers together.
Switch is a device used to segment networks into different sub networks called subnets.
15. **RJ-45** is short for *Registered Jack-45*. It is an eight-wire connector, used to connect computers on LAN's especially Ethernets.
16. Cookies are messages that a web server transmits to the user web browser so that the web server can keep track of the user's activity on a specific web site.
17. The telnet is an remote login program that allows us to login is the process of accessing a network from a remote place without actually being at the actual place of working.
18. (i) Modulator/DeModulator (ii) File Transfer Protocol
19. A repeater is a device that amplifies a signal being transmitted on the network. It is used in long network lines, which exceed the maximum rates distance for a single run.
20. It is a device that works like a bridge but can handle different protocols. For example, a router can link Ethernet with any other type of network.
21. FTP (File Transfer Protocol) transfers files from one system to another. It defines rules for file transfer both systems.(In which file transfer is taking place) must adhere to.
22. URL refers to Uniform Resource Locator. A URL stores the address of a web page on WWW.
23. **HTML**–*HyperText Markup Language* – is a document layout and hyperlink specification language, used for creating web pages.
24. **DHTML** – *Dynamic Hyper Text Markup language* refers to web content that is dynamic i.e., changes each time it is viewed.
25. XML is a markup language for creating documents containing structured information.

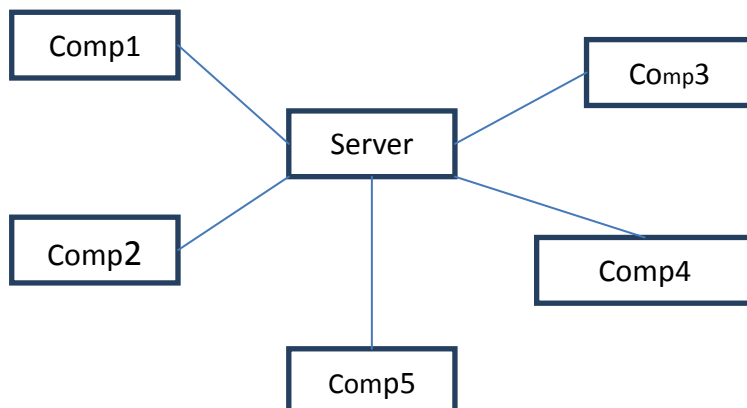
26. In HTML both tag semantics and tag are fixed but XML specifies neither semantics nor tag sets. Rather it provides facility to define tags and relationships among them.
27. The system designed to prevent unauthorized access to or from a private network is called a firewall.
28. Cookies are messages that a web server transmits to a web browser so that the web server can keep track of the user's activity on a specific web site.
29. The **Crackers** are the malicious programmers who break into secure systems whereas **Hackers** are more interested in gaining knowledge about computer systems and possibly using this knowledge for playful pranks.
30. **Cyber Law** is a generic term, which refers to all the legal and regulatory aspects of Internet and the World Wide Web.
31. *Non-dedicated Servers*. It is a workstation on a small network that can double up as a server.
32. *Dedicated Server*. On bigger networks, a computer is reserved for the cause of serving which is called dedicated server.
33. The 80-20 rule of network says that: *80% of the traffic on a given network segment should be local and not more than 20% of the network traffic should need to move across a backbone i.e., the spine connecting various subnetworks.*
34. Bridge is not a broadcast device, as it filters traffic depending upon the receiver's MAC address.
35. Characteristic of 2G mobile technology is that it has introduced data services for mobile, starting with text messaging.
Characteristics of 3G mobile technology is that it is faster than 2G and supports video calling.
36. Char generally involves one-to-one communication. On the other hand video conferencing means more than two persons are involved in a discussion.
37. General Packet Radio Service
38. Characteristics of Wi-Fi are as follows:
 - (i) It is a wireless solution for getting connected to the internet.
 - (ii) It is handy as well as available throughout the journey.
39. In order to chat, you need have an account on the same service as the person you are chatting with, e.g., on the other hand, in case of e-mail, it is not necessary i.e. you can have an account from any provider and you can establish your own.
40. When two mobiles are connected using Bluetooth to transfer a picture file, PAN (Personal Area Network) is created.
41. Following are the two popular open sources used as operating system.
 - (i) GNU
 - (ii) Open Solaris
42. Two characteristics of cloud computing are as follows:
 - (i) On demand self-services.
 - (ii) It provides the facility to pooled resources together to serve multiple customers with different physical and virtual resources dynamically assigned and reassigned according to the customer demand.
43. (i) Open source software is software whose source code is available for customer and it can be modified and redistributed without any limitations. On the other hand, source code is not available in proprietary software.

- (iii) open source software are generally free of cost.
- 44. (ii) Stealing keyboard and mouse from the shop.
- 45. **HTTP** is a protocol used to transfer files from a web server onto a browser in order to view a web page that is on the internet.
FTP is a protocol used to upload files from a workstation to a FTP server or download files from a FTP server to a workstation.
- 46. IP address is an identifier for a computer or device on a TCP/IP network. E.g. 1.160.10.240 could be an IP address. A domain name is a name that identifies one or more IP addresses. e.g. the domain name Microsoft.com represents about a dozen IP addresses.
- 47. Two advantages of using optical fibre cables over an Ethernet cable are as follows:
 - (i) **Low power** because signals in optical fibres degrade less, low-power transmitters can be used.
 - (ii) **Digital Signals** Optical fibres are ideal suited for carrying digital information, which is especially in computer networks.
- 48. Proprietary software can be distributed freely by the permission by the owner. User only purchases the compiled version of this software while the source code for an OSS is open for all, which can be copied, modified for redistributed.
- 49. (i) **Packet Switching** In this there us a fixed size of packet. In this, data packets are stored in the main memory.
This improves the access time.
- (ii) **Circuit switching** In this, firstly complete physical connection between two computers is established. After that data are transmitted from the source computer to the destination computer. E.g. In telephone call, circuit switching is used.
- 50. (i) (a) **HTTP**: HyperText Transfer Protocol.
(b) **VoIP**: Voice over Internet Protocol.
- 51. **Open Source Internet Browser**: Chromium.
Open Source Operating System: Linux
- 52. (ii) Getting into unknown person's social networking account and start messaging on this behalf.
- 53. (ii) VoIP
- 54. **Client Side Scripting Language**: VB Script
Server Side Scripting Language: ASP
- 55. (i) Stealing a mouse from someone's computer.

56. Advantage of star topology is as follow:

No disruption to the network when connecting or removing devices.

5 computers can be connected with each other using server like as follows:



57. URL <http://www.Gabsclassees.com/aboutus>
Domain name www.Gabsclasses.com

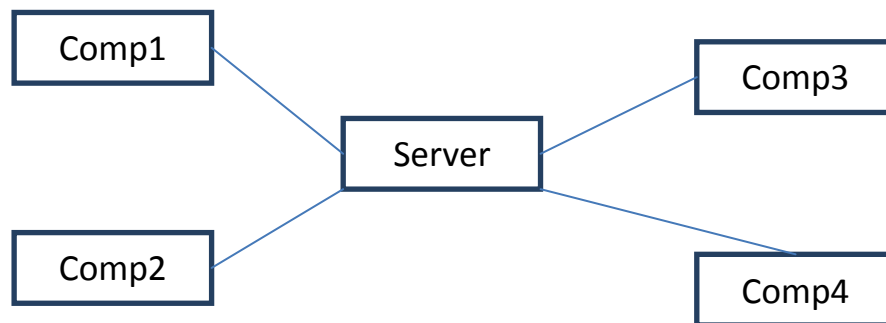
58. (i) **Open Office** Used to make documents.

(iii) **Linux** Operating system

59. (i) Operating someone's Internet banking account, without his knowledge.

60. **Advantage of Bus Topology** In the bus topology computers can be connected with each other using a single linear cable).

Four computers can be connected with each other using server in the following way:



60. (i) MS-Office It is used to make a document, presentation, etc.

(ii) Tally It is used to maintain accounts.

61. Message Switching In this form of switching, no physical copper path is established in advance between sender and receiver. Instead when the sender has a block of data to be sent, it is stored in first switching office, then forwarded later, i.e. one jump at a time.

62. In star topology, nodes are connected to server individually whereas an bus topology are nodes are connected to server along a single length of cable.

63. **Client Side Script** **Server Side Script**

Java script

ASP

VB script

JSP

64. (ii) Access to a bank account for getting unauthorized money transaction.

65. Open source software whose source code is available, that can be modified, copied and redistributed. OSS can be free or can be charged for, whereas proprietary software is a computer software licensed under exclusive legal right of the copyright holder. The license gives the right to use the software under certain conditions.

66. LAN is a group of computers and network devices connected together, usually within the same building whereas WAN is not restricted to geographical location, although it might be confined within the bounds of state or country.

67. **XML** was designed to describe data and to focus on what data is. HTML was designed to display data and to focus on how data looks. XML is not a version of HTML. HTML is about displaying information while XML is about describing information.

68. Web 2.0 is associated with web application that facilitate participatory information sharing, interoperability, uses centered and collaboration on the world wide web. It allows user to interact and collaborate with each other in a social media dialogue as creators of user generated content in a virtual community.

70. Function of modem is to convert analog signals into digital signals and *vice-versa*. It is used to connect internet.

71. Switch/Hub and Repeaters.
72. Repeater is an electronic device, that receives a signal and transmits it at a high level so that the signal covers longer distance. It's required if the distance between source and destination is 90 m or more.
73. ARPANET (Advanced Research Projects Agency Network). The goal of this project was to connect computers at different universities and US defense. ARPANET started with a handful of computers but it expanded rapidly.
74. (ii) Mbps is not unit for data transfer rate.
75. Unlike viruses, Trojan does not replicate them but they can be just a lot destructive. One of the most insidious types of Trojan is a program that claims to rid your computer of viruses but instead introduce viruses onto your computer.
76. Firewall
77. (i) GNU GNU's NOT UNIX.
(ii) XML eXtensible Markup language.
78. (iii) Sbps
79. The main difference between virus and worms is the method by which they reproduce and spread. A virus is dependent upon a boot sector and the transfer of files between machines to spread, while a worm can run completely independently and spread itself through network connections.
80. (i) **FSF** Free Software Foundation
81. Netscape Navigator and Internet Explorer.
82. **Protocol** is a set of rules that two or more computers must follow to communicate on network. **HTTP**(HyperText Transfer Protocol) is used for searching information from internet, using internet browser.
83. Switching techniques used to transfer data between two terminals.
(i) Circuit switching (ii) Packet switching
84. **LAN** The network which is confined to a building or a block is called local area network, e.g. school.
- WAN**The network which is spread across country or continent is called wide area network, e.g. Internet.
85. (i) **HTTP**HyperText Transfer Protocol.
(ii) **ARPANET**Advanced Research Projects Agency Network.
86. **Website**It is a collection of related web pages served from a single web domain.
- Web browser**It is a software that is used to access and display the web pages.
87. Firewall is a security system that prevents an unauthorized access to a private network. Firewalls can be implemented in both hardware and software or combination of both.
88. The data transmission characteristics of coaxial cable are considerably better than twisted pair but not better in relation to optical fibre. The coaxial cable is being used as a shared cable network, with part of the bandwidth being used for data traffic. Optical fibre is difficult to install because they are fragile and need special care to install. One of the major advantages of optical fibre over coaxial cable is its complete immunity to noise, because the information is travelling on a modulated light beam.
89. **Hackers** These are the persons who get unauthorized access to the websites and replace them with other websites or unlawful information.
- Crackers** The person by using certain software to track authenticated information or to crack the Security codes such as user names and password to illegally access the information of computers are called crackers.
90. **Advantage:**
We can share resources such as printers and scanners.

Can share data and access file from any computer.

Disadvantage:

Server faults stop applications from being available.

Network faults can cause loss of data.

91. **ARPAnet**(Advanced Research Project Agency Network is a project sponsored by U. S. Department of Defense.

NSFnet was developed by the National Science Foundation which was high capacity network and strictly used for academic and engineering research.

92. Interspace is a client/server software program that allows multiple users to communicate online with real time audio, video and text chat I dynamic 3D environments.

93 The two switching circuits are

- Circuit Switching
- Message Switching

Circuit Switching - In this technique, first the complete physical connection between two computers is Established and then data are transmitted from the source computer to the destination computer.

94. Communication channel mean the connecting cables that link various workstations.

Following are three basic types of communication channels available:

a) Twisted-Pair Cables

b) Coaxial Cables

c) Fiber-optic Cables

95. There are number of factors to consider in before making a choice for the topology, the most important of which are as following :

(a) Cost.

(b) Flexibility

(c) Reliability

96. **Similarities:**

✓ In both Bus and Tree topologies transmission can be done in both the directions, and can be received by all other stations.

✓ In both cases, there is no need to remove packets from the medium.

Difference:

✓ Bus topology is slower as compared to tree topology of network.

✓ Tree topology is expensive as compared to Bus Topology

97. ✓ Requires more cable length than a linear topology.

✓ If the hub, switch, or concentrator fails, nodes attached are disabled.

✓ More expensive than linear bus topologies because of the cost of the hubs, etc.

98. Ring topology becomes the best choice for a network when,

✓ Short amount of cable is required.

✓ No wiring closet space requires

99. **Advantage:**

✓ Easy to connect a computer or peripheral to a linear bus.

✓ Requires less cable length than a star topology.

Disadvantage :

✓ Slower as compared to tree and star topologies of network

✓ Breakage of wire at any point disturbs the entire network

100. **Advantage:**

✓ Easy to install and wire.

✓ No disruptions to the network when connecting or removing devices.

Disadvantage :

✓ Requires more cable length than a linear topology.

✓ If the hub, switch, or concentrator fails, nodes attached are disabled.

101. **Disadvantage :**

✓ It is not capable to carrying signal to long distance.

- ✓ It connects only up to 100 meters.

102. **Remote login:** Remote login is the process of accessing a network from a remote place without actually being at the actual place of working.

103. An electronic mail messages is structured very much like a paper letter.

In mail message, there are three parts :

- ✓ **The header** – is the envelope,
- ✓ **The body** – is the actual message,
- ✓ **The signature** – comes at the end.

Some common header lines include :

- ✓ **To:** The recipient(s) of the message.
- ✓ **Date:** The date the message was sent.
- ✓ **From:** The person who sent the message.
- ✓ **Cc:** The people who were mailed copies of the message.

104. A script is a small bit of code that enables web browsers to do something rather than just displaying static results. Scripts are used in web design to create dynamic pages. There are 2 categories of Web script

Client Side Script which can be written by using JavaScript, VB Script and Server Side Script which can be written in PHP, JSP