```
{
cout<<i;
i=i+1;
}
while(i<=50);
```

for loop

Syntax:

```
for(initialisation; teste xpression; update statement)
{
loop body;
}
```

Example

```
for(i=1;i<=100;i++)
{
cout<<i;
}
```

****

<u>Chapter – 8 Computer Networks</u>

1. The protocol used for internet communication is ------------- **[March 2020, Score 1]**
   Ans. TCP/IP

2. What are the uses of repeaters? **[March 2020, Score 2]**

   Ans. Repeaters are used to receive the incoming signal, amplify it to their original strength and retransmit it.

3. Write the characteristics of Bluetooth transmission? **[March 2020, Score 2]**
   Ans. Characteristics of Bluetooth transmission :
   - i). Not a line of sight communication
   - ii). Can connect up to 8 devices

4 . Differentiate LAN and WAN **[March 2020, Score 3]**

Ans. Local Area Network (LAN**)**: Networking of communication devices within a limited area like a building, room or a campus. It can set up using wired media (UTP/STP cable) or wireless media (infra-red, radio waves etc.) and can cover up to a few kilometers

Wide area Network (WAN): It can span a geographically wide area like 1000 or more kilometers and may include many small networks. It may use transmission media like microwave. The largest WAN in the world is internet.

5. Write three parts of URL with example. **[March 2020, Score 3]**

Ans. URL is divided in to 3 parts

a). Network protocol(scheme) like 'http'**:** It enables the browser to know what protocol is used to access the information specified in the domain.

b). Domain Name**:** (Host name/ address) like 'dhsekerala.gov.in'. It is the name assigned to a server through the DNS to identify a particular web server. It may contain country specific domain names like .in, .us, .au etc. and generic domain names like .com,.edu etc..

c). File name**:** It is the file to be opened like 'model question.html'

6. Compare the communication technologies in Bluetooth and Wi-Fi. **[July 2019, Score 2]**

Ans. Bluetooth: Its frequency range from 2.402 GHz to 2.480 GHz. It is a short distance communication (approx. 10m). It is uses in cell phones, wireless keyboard etc. It can connect up to 8 devices

Wi-Fi: Its frequency range from 2.4 GHz to 5 GHz. It can connect more devices at a time.

7. (a) What is an URL ? **[July 2019, Score 1]**

(b) Identify three parts of an URL. **[July 2019, Score 2]**

Ans. a) Uniform Resource Locator.

b) A URL is divided in to 3 parts

i. Network protocol(scheme) like 'http'.

ii. Domain Name: (Host name/ address) like 'dhsekerala.gov.in'

iii. File name

8. a) Define communication medium. **[July 2019, Score 1]**

(b) Explain different types of communication medium. **[July 2019, Score 4]**

Ans. a) The path through which message travels from sender to receiver is known as communication media.

b) There are two types of communication media

a. Guided Media**:** Here data is transmitted through some physical media such as metal wire or optical cable. Three types:

i. Coaxial cable

ii.   Twisted Pair

iii.   Optical fiber

    b.   Unguided media: Here data transmission takes place through space or air. Electromagnetic waves are used for it. Three types:

      i)   Radio waves

      ii)   Microwaves

      iii)   Infrared waves.

9. Write the full form of MAC.   **[March 2019, Score 1]**

  Ans. Media Access Control

10. Assume that recently your school computer lab is networked. List any four advantages you can experienced when using networked computers instead of standalone computers.

[March 2019, Score 2]

Ans.

   1.Data communication is possible

   2. Resource Sharing

   3. Reliability

   4. Scalability

11. Name the major parts of an optical fiber cable.   [**March 2019, Score 2]**

  Ans. Optical fiber use light instead of electrical signals. They are made of glass fibers covered by a cladding. Then it is covered by a plastic jacket.

  12. a. Define Network Topology.   **[March 2019, Score 1]**

    b. Compare Ring Topology with Star Topology.   **[March 2019, Score 2]**

Ans. a) Topology is the way in which computers are physically interconnected to form a network.

   a)   In ring topology, all nodes are connected to a circular cable. All data are passing through this cable. In star topology there is hub/server at its centre and all other work stations are connected to it through separate connections. All messages are passed through the server

  13. "Servers have much importance in a client server network". Write the importance and list any two classifications of servers.   **[March 2019, Score 2]**

Ans. A server provides clients with specific services (responses) upon client's request. The services include sharing of data, software and hardware resources. Two types of servers are:

  a) File server.

  b) Web server.

14. Explain any two advantages of computer networks.   **[July 2018, Score 2]**

  Ans.   1. Resource Sharing : Sharing of hardware and software resources is easy.

      2.Reliability : Since many computers share the data, it is easy to recover from failures.

15. Differentiate between HUB and SWITCH.   **[July 2018, Score 2]**

Ans.   Hub is used in wired networks to connect devices of the same network. It transmits data to all the devices connected to it. Switch can be considered as an intelligent hub. It store addresses of all the devices connected to it.

16. "Computer network has an important role in the modern communication".

  a) What is data communication? .   **[July 2018, Score 1]**

  b) Explain any two guided media.   **[July 2018, Score 2]**

  c) List any four data communication devices.   **[July 2018, Score 2]**

Ans. a) Data communication is the exchange of digital data between any two devices through a transmission medium.

b) Guided Media**:** Here data is transmitted through some physical media such as metal wire or optical cable.

     i. Coaxial cables**:** It has an inner central metallic core surrounded by an insulating sheath. It is then surrounded with a conducting outer cover and is again covered with a protecting insulation.

     ii. Optical Fiber **:** Optical fiber use light instead of electrical signals. They are made of glass fibers covered by a cladding both are in perfect thickness and in different refractive indices. Then it is covered by a plastic jacket

c) 1.Hub

    2.switch

    3.Repeater

    4.Bridge

17. Find out the odd one from the following: **[March 2018,Score 1]**

    a) DOS   b) DSL   c) ISDN   d) FTTH

  Ans. DOS

18. There are many advantages in using networked computers instead of standalone computers. Write any four advantages of them.   **[March 2018, Score 2]**

Ans. 1. Data communication is possible

     2. Resource Sharing

     3. Reliability

     4. Scalability

19. What is the importance of TCP / IP protocol in computer networks?   **[March 2018, Score 2]**

  Ans. Transfer Control Protocol/Internet Protocol used to interconnect network devices on local network and internet. When data is sent from one device to another, the data is broken into small packets by TCP and sent through transmission medium. Delivery of each of these packets to the right destination is done by IP. When the packets are received by the receiving computer, TCP checks packets for error and assembles in to original message.

20. a. Define the term, topology.   **[March 2018, Score 1]**

b. Consider that, your principal has decided to network your computer Lab. Which topology will you suggest? Justify your answer **[March 2018, Score 2]**

c.. Differentiate between LAN   and WAN. **[March 2018, Score2]**

Ans. a. Topology is the way in which computers are physically interconnected to form a network.

b. Bus Topology. Because bus topology is easy to install and less expensive. Failure   of node does not affect the network in the case of bus topology

c. Local Area Network (LAN): Networking of communication devices within a limited area like a building, room or a campus. It can set up using wired media or wireless media and can cover up to a few kilometers.

Wide area Network (WAN): It can span a geographically wide area like 1000 or more kilometers and may include many small networks. It may use transmission media like microwave. The largest WAN in the world is internet.

21. Choose a data terminal equipment (DTE) from the following options.   **[July 2017, Score 2]**

a) Bridge   b) Modem   c) Router   d) Gateway

Ans. Modem

22. URL string consists of protocol, domain name and file name. Write the name of a URL and mark these three parts in it. **[July 2017, Score 2]**

Ans. http://www.dhsekerala.gov.in/index.html is a URL.

Here, http is the protocol used, dhsekerala.gov.in is the domain name and index.html is the file name.

23. Communication media is generally divided into two – wired and wireless media.

a) Give an example for wireless medium.   . **[July 2017, Score 1]**

b) Compare the characteristics of three types of wired media. **[July 2017, Score 3]**

Ans. a) Microwaves.

b) i) Twisted pair cable: Low cost, thin , flexible and easy to install

ii) Coaxial cable: High cost, thicker, less flexible and more difficult to install.

iii) Optical fiber: Most expensive, flexible and thin but is fragile and very difficult to install.

24. HTTP stands for ………………. protocol **[March 2017, Score 1]**

Ans. Hyper Text Transfer Protocol.

25. A ……….. is a computer peripheral that allows you to connect and communicate with other computers via telephone lines. **[March 2017, Score 1]**

Ans. Modem

26.URL stands for Uniform Resource Locator. Every resource in the internet has a unique URL. Then classify the following URL on the basis of a) Network protocol   b) Domain Name   c)   File Name.

http://www.dhsekerala.gov.in/index.html **[March 2017, Score 3]**

Ans. Here, http is the protocol used, dhsekerala.gov.in is the domain name and index.html is the file name.

27. How is a WAN different from a LAN ? **[March 2017, Score 3]**

. Local Area Network (LAN**):** Networking of communication devices within a limited area like a building, room or a campus. It can set up using wired media (UTP/STP cable) or wireless media (infra-red, radio waves etc.) and can cover up to a few kilometers

Wide area Network (WAN): It can span a geographically wide area like 1000 or more kilometers and may include many small networks. It may use transmission media like microwave. The largest WAN in the world is internet.

28. In communication system, the term source refers to ……………… **[July 2016, Score 1]**

a) receiver   b) sender   c) information   d) medium

Ans. sender

29. If all devices are connected to a central hub/switch, the topology is known as ………

a) ring topology   b) bus topology   c) star topology   d) mesh topology

[July 2016, Score 1]

Ans. star topology

30. List any four advantages of forming computer networks. **[July 2016, Score 3]**

Ans. 1. Data communication is possible

2. Resource Sharing

3. Reliability

4. Scalability

31. Define the following terms related to computer network. **[July 2016, Score 3]**

a) Node   b) Bandwidth   c) Noise

Ans. Node : Any device which is directly connected to a computer network is called a node.

Bandwidth: bandwidth measures the amount of data that can be sent over a specific connection in a given time.

Noise: Noise is unwanted signals that lowers the quality of data signals.

32. " Client - Server architecture is an example of centralized software management". Justify.

[March 2016, Score 2]

Ans. In client Server architecture, a high-end computer (Server) provides specific services to the clients upon clients' request. All the resources are stored within server and shared to the clients whenever needed. This is equivalent to a centralized software management.

33. Match the following **[March 2016, Score 2]**

A	B
Unguided media	Org
Generic domain name	Coaxial cable
Guided media	microwave
Protocol	http

Ans: Unguided media   – microwave

Generic domain name   – org

Guided media   – coaxial cable

Protocol   - http

34. Compare ring topology and mesh topology.   **[March 2016, Score 3]**

Ring Topology: All node computers are connected to a circular cable. All data are passing through this cable.

Advantages:

     i). No signal amplification required because each node will do it.

     ii). Requires less cable, so cost effective

Disadvantages:

     i). If a node fails, entire network will fail.

     ii). Addition of nodes is difficult.

Mesh Topology: In this Topology each node is connected to other nodes. So there is more than one path between two nodes. Here, failure of one node may not affect the data communication.

Advantages:

     i). If one workstation or a path fails, it does not affect the whole network.

Disadvantages:

     i). Requires more cables, so very expensive.

     ii). Very complex and difficult to manage.

35. A device that regenerates the incoming signals and retransmits them to their destination is called ….. **[July 2015, Score 1]**

Ans. Repeater

36. Which among the following communication technologies is the slowest? **[July 2015, Score 1]**

a) Bluetooth   b) wi-Fi   c) Wi-MAX   d) Satellite link

Ans. Bluetooth

37. Consider that your teacher is planning to connect the computers in the computer lab of your school to form network.   **[July 2015]**

a) He has a switch and a hub to connect these computers. Which one would you prefer? Why?

[Score 2]

b) Name a topology that you will suggest for this network. Give reasons for your suggestion.

[Score 3]

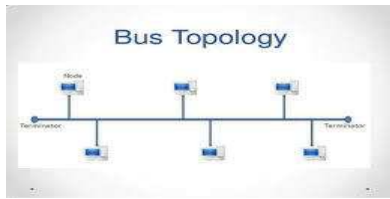**Ans.** a) Switch. Switch is more intelligent and efficient than hub.

b) Bus Topology. Because bus topology is easy to install and less expensive. Failure of a node will not affect the network in the case of bus topology.

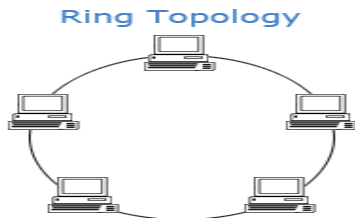**38. I**dentify the name given to the physical arrangement of computers in a network. Explain two types with block diagrams.   **[March 2015, Score 3]**

Ans. Topology.

Bus Topology: There is a main cable called bus from the server to which every nodes are connected by short drop cables. A small device called terminator is attached at the end of the bus. When a data signal reaches the terminator at the end, it is absorbed and the bus is free to carry new signal.

Ring Topology: All node computers are connected to a circular cable. All data are passing through this cable.

39. Write any two advantages of networks.   **[March 2015, Score 2]**

Ans.   1. Resource Sharing : Sharing of hardware and software resources is easy.

               2. Reliability : Since many computers share the data, it is easy to recover from failures.

40. What are the advantages of Wi-Fi network ?   **[March 2015, score 3]**

Ans. In Wi - Fi network, line of sight between communicating devices is not required.

High data transmission speed.

Wi – Fi Can connect more devices.

****

Chapter - 9   Internet

1. Explain cc and bcc sections in email   **[March 2020, Score 2]**

   Ans. Cc (Carbon copy): The e-mail address of secondary recipient.

      Bcc (Blind carbon copy): The e-mail address to which blind carbon copies are to be sent.

2. What is search engine? Write any two examples   **[March 2020, Score 2]**

3. **Ans**. Search engine programs search documents available on World Wide Web for specified keywords and return a list of the documents/web pages matching the keywords. Search engine web sites use programs called web crawlers or spiders or robots to search the web. The search