

# Information technology short



**ASSIGN  
BUSTER**

1. Describe the difference between an analog signal and a digital signal?

Analog signal has a smooth consistency over a vary of time. An example of analog signal is voice. Digital signal is smooth, but after a period of time, it will change its consistency. An example of digital signal is text.

2. What is the function of a dial up modem? A dial up modem, modulates the digital data received from a computer, and transfers it into an analog signal, which then transmits down a telephone line. The receiving dial up modem, demodulates the analog signal, turning it back into a digital signal.

3. What is a network? How is a local area network (LAN) different from a wide area network (WAN) A network is a collection of computers ad devices connected by communication channels, that allows users to share resources with each other. LAN, is restricted to a network devices and computers connected together in a building. A WAN contains several LANs, not restricting to one building, rather than being connected within a state/country.

4. Describe the five main advantages of using a network over standalone computers? Resource sharing; Able to share resources such as a printer. Load reduction; Being able to share data, dividing work over a network, rather than on one computer. Data Sharing; Being able to share data across the network. Cost Reduction; Sending data via the network, rather than using a compact disc. Communication; Easier communication over the network.

5. Why user dependence is considered a possible disadvantage of networks?

The users of the network rely on the network to operate correctly, if a file server develops a fault, the users of the network would be unable to use it.

6. What problem could eventuate if a network is not well managed? The network may run less efficiently.

7. Describe four important tasks of a network operating system? File management Printer management Security Administration

8. Identify the network operating system in your school. Microsoft XP

9. How does a peer to peer network differ from a client server network? A peer to peer network is a simple, inexpensive network that typically connects fewer than ten computers. In a client server network a server, sometimes called the host computer controls access to the hardware and software on the network.

10. Identify the dedicated servers that are used on networks in your school? File server Print server A database server

11. Briefly describe two common network topologies. Commonly used network topologies are bus and star. Networks usually use combinations of these topologies which are referred to as hybrids.

12. What is an intranet? What benefits to organisations are there in setting up an intranet? An intranet is an internal network within an organisation that uses internet and web technologies. It allows restricted access to company information. Facilitates communication. Accessing the intranet is usually fast.

13. Why do manufacturers of networks hardware and software follow established standards? Standards are important in the computer industry because they allow the combination of products from different manufacturers to create a customised system.
14. Briefly describe how an Ethernet network transmits data. Ethernet networks use cables to transmit data
15. In what situations would the TCP/IP protocol be most useful? It would be most useful when developing an intranet.
16. Explain the term packet switching. Breaking a message into individual packets, sending the packets along the best route available, and then reassembling the data is called packet switching.
17. What network transmission standard would be useful in a situation where an old heritage listed building with solid stone walls need to be networked?  
802. 11 standard wireless network
18. What advantage are there for users if a network moves from the 802. 11b standard to 802. 11n? Faster speed and stronger signal strength.
19. A mobile telephone is an example of a wireless device that can be web enable. What does the term web enabled mean? A device that can connect to the internet.
20. What functions are likely to be available on a smart phone? Send emails, access the web. Address book, calendar and a calculator.

21. What does the expression convergence of technologies mean Give an example in which convergence of technologies is apparent in portable network devices. It means to combine all different types of technology together (Phone, computer) PDA with a media player in-built.
22. Some communications software support file transfer protocol (FTP). What is the purpose of FTP? FTP is an application layer protocol used to send and receive files via TCP/IP
23. What is the purpose of a network interface card? A NIC enables the device to connect to a network.
24. A wireless access point can be wired to the fibre optic backbone of a bus network. What is the purpose of the wireless access point? For faster transmission of data back to the network server.
25. Routers and switches are used to connect separate networks. Explain the circumstances in which each of these would be used. A switch is used for a connecting point for cables in a star. A router is a device used to connect multiple area networks.
26. What is the difference between baseband and broadband transmission? In broadband transmission, signals are sent on multiple frequencies. Baseband transmission is just one signal that is transmitted.
27. What is the advantage of using coaxial cable over twisted pair wire? When you would use twisted pair? Coaxial cable can be laid over a longer distance.

28. What advantage does fibre optics have over wire cables? Fibre optic transmits a faster signal rate.

29. In what circumstances would a network designer consider using wireless transmission media? When it is impossible, impractical and inconvenient to install cables.

30. Briefly describe the broadcast radio and cellular radio wireless transmission media? Broadcast radio, you need a transmitter to send the broadcast radio signal, and a receiver to accept it. Cellular radio, is a form of broadcast radio that is used widely for mobile communications.

31. What is the main limitation of microwave transmission? That they have to transmit a signal in a straight line.

32. Many companies use satellite transmission to access the internet. Web satellites however will provide faster downlink transmissions than uplink transmissions. Why is the difference in speed not a major concern to these companies?

33. Why might Bluetooth take over from infra-red transmission in some networks? Because with Bluetooth, you can communicate with several other devices at once.

34. What is a common way for viruses and worms to spread through a network? As with anything else that is shared between computers, networks let users share files, and wherever files are shared, viruses can be shared and spread.

35. Describe how verifying the identity of a user can protect a network?

36. What is a firewall? A hardware/software that restricts access to data and information on a network.

37. Describe three measures that should be incorporated into a wireless network to restrict access by unauthorised users and to secure the transmission of data? A firewall. The network should be configured so it won't broadcast a network name. Use wifi protected access.

38. Describe the advantages of setting up a home network administrator? All the computers can be connected to the internet at the same time. All computers can share the same devices. Each computer that is networked is able to play multiplayer games with each other.

39. There are three types of home network in common use. Which type would you choose to set up a network in your home? Why would you choose that type? I would choose a wifi network, due to all the different devices used for the internet, making it easier without any cables.

40. What are the four major roles of a network administrator? Operational duties. Administrative tasks. Maintenance duties. Developing tasks.

41. What tasks are performed by a helpdesk operator? Responds to requests from users for assistance with network access or application software problems.

42. Identify who would complete the following tasks? a) Determining why a user is not able to send or receive email? Help desk operator. b) Updating

system software on a client computer System analyst c) Determining whether to upgrade all users to a new network operation system Network administrator d) Setting up a separate mail server on the network Network technician

43. List the procedures that might be used in an organisation if the network administrator needs to replace a file server with one of higher capacity.

Think about when this might occur, warnings to users about system 'down time'. Transferring the contents of the old server to the new configuring the new server and testing connections This would occur when the file server requires a bigger file server. He would need to inform everyone that the system will go down, possibly he could do this when the computers are used least, or he could tell everyone ahead of time, giving them an early warning. He would need to transfer all the old contents from the old file server to the new, bigger one.