**MULTIPLE CHOICE QUESTIONS**

1 Computer Network is
A. Collection of hardware components and computers
B. Interconnected by communication channels
C. Sharing of resources and information
D. All of the Above

2. Protocols are?
A. Agreements on how communication components and DTE's are to communicate
B. Logical communication channels for transferring data
C. Physical communication channels sued for transferring data
D. None of above

​3. Two devices are in network if
A. a process in one device is able to exchange information with a process in another device
B. a process is running on both devices
C. PIDs of the processes running of different devices are same
D. none of the mentioned

4. what is a Firewall in Computer Network?
A. The physical boundary of Network
B. An operating System of Computer Network
C. A system designed to prevent unauthorized access
D. A web browsing Software

5. The IETF standards documents are called
A. RFC
B. RCF
C. ID
D. None of the mentioned

6. Which data communication method is used to transmit the data over a serial communication link?
A. Simplex
B. Half-duplex
C. Full duplex
D. All of above

7. Each IP packet must contain
A. Only Source address
B. Only Destination address
C. Source and Destination address
D. Source or Destination address

8. What is the minimum header size of an IP packet?
A. 16 bytes
B. 10 bytes
C. 20 bytes
D. 32 bytes

9. Routing tables of a router keeps track of
A. MAC Address Assignments
B. Port Assignments to network devices
C. Distribute IP address to network devices
D. Routes to use for forwarding data to its destination

10. Which of the following is not the External Security Threats?
A. Front-door Threats
B. Back-door Threats
C. Underground Threats
D. Denial of Service (DoS)

11. What is the IP Address range of APIPA?
A. 169.254.0.1 to 169.254.0.254
B. 169.254.0.1 to 169.254.0.255
C. 169.254.0.1 to 169.254.255.254
D. 169.254.0.1 to 169.254.255.255

12. Which of the following is not the possible ways of data exchange?
A. Simplex
B. Multiplex
C. Half-duplex
D. Full-duplex

13. The management of data flow between computers or devices or between nodes in a network is called
A. Flow control
B. Data Control
C. Data Management
D. Flow Management

14. What does the port number in a TCP connection specify?
A. It specifies the communication process on the two end systems
B. It specifies the quality of the data & connection
C. It specify the size of data
D. All of the above

15. What is the purpose of the PSH flag in the TCP header?
A. Typically used to indicate end of message
B. Typically used to indicate beginning of message
C. Typically used to push the message
D. Typically used to indicate stop the message

16. Which of the following protocol is/are defined in Transport layer?
A. FTP
B. TCP
C. UDP
D. B & C

17. The meaning of Straight-through Cable is
A. Four wire pairs connect to the same pin on each end
B. The cable Which Directly connects Computer to Computer
C. Four wire pairs not twisted with each other
D. The cable which is not twisted

18. What is the size of MAC Address?
A. 16-bits
B. 32-bits
C. 48-bits
D. 64-bits

19. Repeater operates in which layer of the OSI model?
A. Physical layer
B. Data link layer
C. Network layer
D. Transport layer

20. Which of the following layer of OSI model also called end-to-end layer?
A. Presentation layer
B. Network layer
C. Session layer
D. Transport layer

21. Router operates in which layer of OSI Reference Model?
A. Layer 1 (Physical Layer)
B. Layer 3 (Network Layer)
C. Layer 4 (Transport Layer)
D. Layer 7 (Application Layer)

22. ADSL is the abbreviation of
A. Asymmetric Dual Subscriber Line
B. Asymmetric Digital System Line
C. Asymmetric Dual System Line
D. Asymmetric Digital Subscriber Line

23. How many layers does OSI Reference Model has?
A. 4
B. 5
C. 6
D. 7

24 Bridge works in which layer of the OSI model?
A. Appliation layer
B. Transport layer
C. Network layer
D. Datalink layer

25. Why IP Protocol is considered as unreliable?
A. A packet may be lost
B. Packets may arrive out of order
C. Duplicate packets may be generated
D. All of the above

26. What is the benefit of the Networking?
A. File Sharing
B. Easier access to Resources
C. Easier Backups
D. All of the Above

27. Which of the following is not the Networking Devices?
A. Gateways
B. Linux
C. Routers
D. Firewalls

28. What is the maximum header size of an IP packet?
A. 32 bytes
B. 64 bytes
C. 30 bytes
D. 60 bytes

29. Which of the following is correct in VLSM?
A. Can have subnets of different sizes
B. Subnets must be in same size
C. No required of subnet
D. All of above

30. DHCP Server provides \_\_\_\_\_ to the client.
A. Protocol
B. IP Address
C. MAC Address
D. Network Address

31. What is the address size of IPv6 ?
A. 32 bit
B. 64 bit
C. 128 bit
D. 256 bit

32. What is the size of Network bits & Host bits of Class A of IP address?
A. Network bits 7, Host bits 24
B. Network bits 8, Host bits 24
C. Network bits 7, Host bits 23
D. Network bits 8, Host bits 23

33. What is the full form of RAID ?
A. Redundant Array of Independent Disks
B. Redundant Array of Important Disks
C. Random Access of Independent Disks
D. Random Access of Important Disks

34. What do you mean by broadcasting in Networking?
A. It means addressing a packet to all machine
B. It means addressing a packet to some machine
C. It means addressing a packet to a particular machine
D. It means addressing a packet to except a particular machine

35. What is the size of Source and Destination IP address in IP header?
A. 4 bits
B. 8 bits
C. 16 bits
D. 32 bits

36. What is the typical range of Ephemeral ports?
A. 1 to 80
B. 1 to 1024
C. 80 to 8080
D. 1024 to 65535

37. A set of rules that govern all aspects of information communication is called
A. Server
B. Internet
C. Protocol
D. OSI Model

38. Controlling access to a network by analyzing the incoming and outgoing packets is called
A. IP Filtering
B. Data Filtering
C. Packet Filtering
D. Firewall Filtering

39. DHCP is the abbreviation of
A. Dynamic Host Control Protocol
B. Dynamic Host Configuration Protocol
C. Dynamic Hyper Control Protocol
D. Dynamic Hyper Configuration Protocol

40. What is the use of Bridge in Network?
A. to connect LANs
B. to separate LANs
C. to control Network Speed
D. All of the above

41. Network congestion occurs
A. in case of traffic overloading
B. when a system terminates
C. when connection between two nodes terminates
D. none of the mentioned

42. What is the meaning of Bandwidth in Network?
A. Transmission capacity of a communication channels
B. Connected Computers in the Network
C. Class of IP used in Network
D. None of Above

43 Which of the following is correct regarding Class B Address of IP address
A. Network bit – 14, Host bit – 16
B. Network bit – 16, Host bit – 14
C. Network bit – 18, Host bit – 16
D. Network bit – 12, Host bit – 14

44. ............provides a connection-oriented reliable service for sending messages
A. TCP
B. IP
C. UDP
D. All of the above

45. What does Router do in a network?
A. Forwards a packet to all outgoing links
B. Forwards a packet to the next free outgoing link
C. Determines on which outing link a packet is to be forwarded
D. Forwards a packet to all outgoing links except the originated link

46. What is the use of Ping command?
A. To test a device on the network is reachable
B. To test a hard disk fault
C. To test a bug in a Application
D. To test a Pinter Quality

47. What is the size of Host bits in Class B of IP address?
A. 04
B. 08
C. 16
D. 32

48. Which of the following is correct in CIDR?
A. Class A includes Class B network
B. There are only two networks
C. There are high & low class network
D. There is no concept of class A, B, C networks

49. The processes on each machine that communicate at a given layer are called
A. UDP process
B. Intranet process
C. Server technology
D. Peer-peer process

50. Which of the following layer is not network support layer?
A. Transport Layer
B. Network Layers
C. Data link Layer
D. Physical Layer

1-D 2-A 3-A 4-C 5-A 6-C 7-C 8-C 9-D 10-C

11-C 12-B 13-A 14-A 15-A 16-D 17-A 18-C 19-A 20-D

21-B 22-D 23-D 24-D 25-D 26-D 27-B 28-D 29-A 30-B

31-C 32-A 33-A 34-A 35-D 36-D 37-C 38-C 39-B 40-A

41-A 42-A 43-A 44-A 45-C 46-A 47-C 48-D 49-D 50-A

**SUBJECTIVE QUESTIONS**

Ques (1) --What is the purpose of BOOTP protocol?

Ans--Bootstrap protocol (BOOTP) is a client/server protocol designed to provide

 the four pieces of information for a diskless computer or a computer that is booted

 for the first time these four pieces of information’s are:

1. The IP address of the computer.

2. The subnet mask of the computer.

3. The IP address of a router.

4. The IP address of a name server.

Ques (2) --What do you mean By SYN flooding attack?

Ans--When a malicious attacker sends a large number of SYN segments to a server pretending that each of them is coming from a different client by faking the source IP addresses in the datagram. The server allocates the necessary resources, to these clients and sends the SYN + ACK segments to the fake clients, which are lost. So lots of resources are occupied without being used. If, during this short period of time, the number of SYN segments is large, the server eventually runs out of resources and may crash.

 This SYN flooding attack belongs to a group os security attacks known as denial of service attack.

Ques (3) --What is embedding in Telnet?

Ans--TELNET uses only one TCP connection. The server uses the well-known port 23 and the client uses an ephemeral port. The same connection is used for sending both data and control characters. TELNET accomplishes this by embedding the control characters in the data stream.

However, to distinguish data from control characters, each sequence of control characters is preceded by a special control characters called interpret as control (IAS).

Ques (4) --List the various groups of FTP commands?

Ans--Commands, which are sent from the FTP client control process are in the form of ASCII uppercase, which may or may not be followed by an argument. These commands are divided into six groups as follows:

1. Access commands.

2. File management commands.

3. Data formatting commands.

4. Port defining commands.

5. File transfer commands.

6. Miscellaneous commands.

Ques (5) --What are the various components of an electronic mail system?

Ans--E-mail system has three main components:

1. User agent (UA)--It provides service to the user to make the process of sending and

receiving a message easier.

2. Message transfer agent (SMTP)--The actual mal transfer is done through this. To send mail, a system must have the client MTA, and to receive mail, a system must have a server MTA. SMTP protocol is used to define the MTA client-server in the internet.

3. Message access agent (POP and IMAP) --In this stage client must pull the messages from the server. The direction of the bulk datas are from server to the client. This uses two protocols:

1. Post office protocol (POP) and

2.Internet mail access protocol (IMAP).

Ques (6) --For what type of application would you use UDP and why?

Ans--The following lists some uses of the UDP protocol:

1. UDP is suitable for a process that requires simple request-response communication with little concern for flow and error control. It is not usually used for a process such as FTP that needs to send bulk data.

2. UDP is suitable for a process with internal flow and error control mechanisms. For

examples, the Trivial File Transfer Protocol (TFTP) process includes flow and error control.

3. UDP is suitable transport protocol for multicasting.

4. UDP is used for management processes such as SNMP.

5. UDP is used for some route updating protocol such as Routing Information Protocol (RIP).

Ques (7) --Name a public key and private key algorithm?

Ans--1. Public Key algorithm--RSA(Rivest, Shamir and Adleman) Algorithm.

 2.Private key algorithm--DH(Diffie-Hellman) Algorithm.

Ques (8) --Expand the terms IEEE and ICANN?

Ans—IEEE (Institute of Electrical and Electronics Engineering).

 ICANN (Internet Corporation for Assigned Names and Numbers).

Ques (9) --What are the Physical, Logical and Port addresses?

Ans--1. Physical Address--Also known as Link address, is the address of a node as defined by its LAN or WAN. For example-NIC (Network Interface Address). It is included in the frame used by the Data link layer. It is a lower level address.

2. Logical address--It is a unique address used for universal communication like IP address- it is of 32 bits address that is universally unique for each and every computer.

3. Port address-- It is used in process to process communication. Each computer runs

 multiple processes at the same time. Port address is unique for each process.

Ques (10) --What is limited broadcast address?

Ans--A packet is sent to a specific network or a series of networks. A limited Broadcast address includes the network or subnet fields. In this, packet destined for a local network, the network identifier portion and host identifier portion of destination address is either all ones (255.255.255.255) or all zeros (0.0.0.0).

Ques (11) --What does a router running proxy ARP and representing 10 hosts return in the target hardware address field in an ARP reply?

Ans--Router running proxy ARP returns its own MAC address in the target hardware address field in an ARP reply.

Ques (12) --Name the various IGMP messages?

Ans--1. General Query.

2. Specific Query.

3.Membership Report.

4. Leave Report.

Ques (13) --Name a technology that creates and handle dynamic documents?

Ans--Common Gateway Interface (CGI).

Ques (14) --What is the maximum size of data portion of the IP Datagram?

Ans--65,535.

Ques (15) --Name an application program that uses the services of ICMP to test the

reachability of a host?

Ans--PING.

Ques (16) --List the different types of ICMP messages?

Ans--1. Error Reporting Messages.

2. Query Messages.

Ques (17) --Find the class of following IP addresses?

a. 237.14.2.1

b. 208.35.54.12

c. 114.34.2.8

d. 129.36.55.2

e. 252.5.15.111

Ans---

a. The first byte is 237(between 224 and 239): the class is D.

b. The first byte is 208(between 192 and 223): the class is C.

c. The first byte is 114(between 0 and 127): the class is A.

d. The first byte is 129(between 128 and 191): the class is B.

e. The first byte is 252(between 240 and 255): the class is E.

Ques (18) --What do you mean by Loopback Address?

Ans--The IP Address with the first byte equal to 127 is used for the Loopback Address, which is an address used ti test the software on a machine. when this address is used, a packet never leaves the machine, it simple returns to the protocol software. It can be used to test the IP software. For example, the loopback address can be used by a client process (a running application program) to send a message to a server process on the same machine.

Ques (19) --Which of the following can be the beginning address of a block that contains 16 addresses?

a. 205.16.37.32

b. 190.16.42.44

c. 17.17.33.80

d. 123.45.24.52

Ans--Only two are eligible (a and c).

Reason--The address 205.16.37.32 is eligible because 32 is divisible by 16.

and the address 17.17.33.80 is eligible because 80 is divisible by 16.

Ques (20) --Why we use DHCP protocol. Name all the options used in DHCP packet Format?

Ans--DHCP is Dynamic Host Configuration Protocol, provides static and dynamic address allocation that can be manual or automatic.

Options for DHCP are:

1. DHCPDISCOVER.

2. DHCPOFFER.

3. DHCPREQUEST.

4. DHCPDECLINE.

5. DHCPACK.

6. DHCPNACK.

7. DHCPRELEASE.