



**Course: B TECH(CSE)LLB(CL/IPR)**

**Semester: IV**

**Date: 6-July-2020**

**Start Time: 2:00 PM**

**Subject: Data Communication and Computer Networks**

**Subject Code: CSEG 2009**

**Duration: 2 Hours**

**No. of Questions: 60**

### **Instructions for Online End Term Exam**

- Attempt all the questions.
- Backtracking is not allowed.

- 1) Which of these is not applicable for IP protocol?
  - a) is connectionless
  - b) offer reliable service
  - c) offer unreliable service
  - d) does not offer error reporting
  
- 2) Which field helps to check the rearrangement of the fragments?
  - a) Offset
  - b) Flag
  - c) TTL
  - d) identifier
  
- 3) Which protocol gives a full route table update every 30 seconds?
  - a) IEGRP
  - b) RIP
  - c) ICMP
  - d) IP
  
- 4) Open Shortest Path First (OSPF) is also called as \_\_\_\_\_

- a) Link state protocol
  - b) Error-correction protocol
  - c) Routing information protocol
  - d) Border gateway protocol
- 5) In link-state routing, after the construction of link-state packets new routes are computed using .....
- a) Bellman-Ford algorithm
  - b) DES algorithm
  - c) Dijkstra's algorithm
  - d) Leaky bucket algorithm
- 6) The combination of \_\_\_\_\_ and \_\_\_\_\_ is often termed the local address of the local portion of the IP address.
- a) Network number and host number
  - b) Network number and subnet number
  - c) Subnet number and host number
  - d) Host number
- 7) \_\_\_\_\_ is a high performance fiber optic token ring LAN running at 100 Mbps over distances upto 1000 stations connected.
- a) FDDI
  - b) FDDT
  - c) FDDR
  - d) FOTR
- 8) \_\_\_\_\_ is a collective term for a number of Ethernet standards that carry traffic at the nominal rate of 1000 Mbit/s against the original Ethernet speed of 10 Mbit/s.
- a) Ethernet
  - b) Fast Ethernet
  - c) Gigabit Ethernet
  - d) Gigabyte Ethernet
- 9) Which of the following is the broadcast address for a Class B network ID using the default subnetmask?
- a) 172.16.10.255
  - b) 255.255.255.255
  - c) 172.16.255.255

d) 172.255.255.255

10) Which services are provided by the transport layer?

- a) Error control
- b) Connection service
- c) Connectionless service
- d) Congestion control

11) TCP and UDP are called \_\_\_\_\_

- a) Application protocols
- b) Session protocols
- c) Transport protocols
- d) Network protocols

12) Using which method in transport layer data integrity can be ensured?

- a) Checksum
- b) Repetition codes
- c) Cyclic redundancy checks
- d) Error-correcting codes

13) UDP packets are called as \_\_\_\_\_

- a) Segments
- b) Checksum
- c) Frames
- d) Datagrams

14) The \_\_\_\_\_ translates internet domain and host names to IP address.

- a) domain name system
- b) routing information protocol
- c) network time protocol
- d) internet relay chat

15) Which one of the following allows a user at one site to establish a connection to another site and then pass keystrokes from localhost to remote host?

- a) HTTP
- b) FTP
- c) Telnet
- d) TCP

- 16) Which one of the following protocol delivers/stores mail to the receiver server?
- a) Simple mail transfer protocol
  - b) Post office protocol
  - c) internet mail access protocol
  - d) Hypertext transfer protocol
- 17) Which one of the following is not correct?
- a) Application layer protocols are used by both source and destination devices during a communication session
  - b) HTTP is a session layer protocol
  - c) TCP is an application layer protocol
  - d) All of the mentioned
- 18) DHCP (dynamic host configuration protocol) provides \_\_\_\_\_ to the client.
- a) IP address
  - b) MAC address
  - c) Url
  - d) None of the mentioned
- 19) DHCP uses UDP port \_\_\_\_\_ for sending data to the server.
- a) 66
  - b) 67
  - c) 68
  - d) 69
- 20) Which of the following transport layer protocols is used to support electronic mail?
- a) SMTP
  - b) IP
  - c) TCP
  - d) UDP
- 21) Which one of the following uses UDP as the transport protocol?
- a) HTTP
  - b) Telnet
  - c) DNS
  - d) SMTP

- 22) Which command will show you all the translations active on your router?
- a) show ip nat translations
  - b) show ip nat statistics
  - c) debug ip nat
  - d) clear ip nat translations
- 23) The size of an IP address in IPv6 is \_\_\_\_\_
- a) 4 bytes
  - b) 128 bits
  - c) 8 bytes
  - d) 100 bits
- 24) Which among the following features is present in IPv6 but not in IPv4?
- a) Fragmentation
  - b) Header checksum
  - c) Options
  - d) Anycast address
- 25) In the IPv4 addressing format, the number of networks allowed under Class C addresses is
- a)  $2^{14}$
  - b)  $2^7$
  - c)  $2^{21}$
  - d)  $2^{24}$
- 26) An Internet Service Provider(ISP) has the following chunk of CIDR-based IP addresses available with it:245.248.128.0/20. The ISP wants to give half of this chunk of address to Organization A, and a quarter to Organization B, while retaining the remaining with itself. Which of the following is a valid allocation of addresses to A and B?
- a) 245.248.136.0/21 and 245.248.128.0/22
  - b) 245.248.128.0/21 and 245.248.128.0/22
  - c) 245.248.132.0/22 and 245.248.132.0/21
  - d) 245.248.136.0/22 and 245.248.132.0/21
- 27) How many bits are allocated for network id (NID) and host id(HID) in the IP address 25.193.155.233?
- a) 24 bit for NID, 8 bits for HID

- b) 8 bit for NID, 24 bits for HID
- c) 16 bit for NID, 16 bits for HID
- d) none

28) Your router has the following IP address on ethernet0: 172.16.2.1/23. Which of the following can be valid host IDs on the LAN interface attached to the router?

1. 172.16.1.100 2. 2.172.16.1.198 3. 3.172.16.2.255 4. 4.172.16.3.0

- b) 1 only
- c) 2 and 3 only
- d) 3 and 4 only
- e) None of the above

29) What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?

- a) 14
- b) 15
- c) 16
- d) 30

30) You have an interface on a router with the IP address of 192.168.192.10/29. Including the router interface, how many hosts can have IP addresses on the LAN attached to the router interface?

- a)

31) "In context to jitter, pick the odd one out."

- a) Variation in packet arrival time
- b) This delay is evenly distributed
- c) Jitter plays vital role in effectiveness of computer network
- d) All of these are related to jitter

32) Which of these are part of the five components that a computer network primarily has?

- a) Protocol
- b) Sender
- c) Server
- d) Router

33) Which is NOT part of fundamental characteristics of data communication?

- a) Delivery
- b) Accuracy
- c) Timeliness
- d) Efficiency

34) "I and my friend were talking over a communication network but we were facing a issue which was when I was talking, I was not able to hear and when I was hearing, I was not able to talk. What type of data flow was happening between us?"

- a) Simplex
- b) Full Duplex
- c) Duplex
- d) Half Duplex

35) How many duplex mode links will be there in a mesh topology with 10 nodes.

- a) 20
- b) 45
- c) 10
- d) 40

36) A Request for Comment is an idea that has achieved status of a Internet Standard.

- a) FALSE
- b) TRUE

37) A bridge uses IP addresses while a router uses MAC addresses

- a) FALSE
- b) TRUE

38) "Which of the models is more dominant, tested and extensively used."

- a) OSI
- b) TCP/IP
- c) Both OSI & TCP/IP have their own relevance and applicability
- d) None of these

39) The time takes for an entire message to completely arrive at the destination from the time the first bit is sent out from the source is called

- a) Propagation time
- b) Transmission time

- c) Processing delay
- d) Latency

40) Data of FTP client is delivered to a FTP Server by which layer?

- a) Application Layer
- b) Datalink Layer
- c) Network Layer
- d) Transport layer

41) If period of a signal is 200 ms. What is the frequency of signal?

- a) 5 Hz
- b)  $10^{-3}$  KHz
- c) 10 Hz
- d)  $10^{-2}$  Kh

42) What is the transmission time of a packet sent by a station if the length of the packet is 1 million bytes and the bandwidth of the channel is 200 Kbps?

- a) 25 ms
- b) 40 ms
- c) 40 s
- d) 25s

43) A router modifies the IP packets during forwarding.

- a) TRUE
- b) FALSE

44) A periodic signal has a bandwidth of 20 Hz. The highest frequency is 60 Hz. What is the lowest frequency?

- a) 20 Hz
- b) 40 Hz
- c) 60 Hz
- d) 80 Hz

45) The multiplexing approach usually used for multiplexing digital signals is:

- a) Frequency Division Multiplexing
- b) Wavelength Division Multiplexing
- c) Time Division Multiplexing



d) Code Division Multiplexing

46) Coaxial cable can carry signals of higher frequency as compared to twisted pair cable.

- a) TRUE
- b) FALSE

47) Pick the odd one out

- a) Radiowave
- b) Microwave
- c) Infrared
- d) Optical Fiber

48) Microwaves are unidirectional and work in line of sight of the antenna.

- a) TRUE
- b) FALSE

49) Which of these require end to end addressing but no addressing during data transfer phase?

- a) Circuit Switched Network
- b) Datagram Network
- c) Virtual Circuit Network
- d) All of these

50) How many transmission delays will be introduced in a datagram network.

- a) 1 Transmission Delay
- b) 3 Transmission Delay
- c) 2 Transmission Delay
- d) No transmission delay

51) The power of a signal is 10 mW and the power of the noise is 1 microwatt; what are the values of SNR and SNRdB?

- a) "SNR = 10000, SNRdB=40"
- b) "SNR = 40, SNRdB =10000"
- c) "SNR = 40000, SNRdB =10"
- d) "SNR = 40000, SNRdB =100"

- 52) A digitized voice channel is made by digitizing a 4 kHz bandwidth analog voice signal. We need to sample the signal at twice the highest frequency (two samples per hertz). We assume that each sample requires 8 bits. What is the required bit rate
- a) 64000 kbps
  - b) 60000 kbps
  - c) 64 kbps
  - d) 60 kbps
- 53) Which is incorrect in context to a VCI?
- a) Used between two switches
  - b) "The outgoing VCI number is same as the incoming VCI number, to enable identification of sender."
  - c) It is not a global address
  - d) VCI stands for Virtual-Circuit Identifier
- 54) What is the number of parity bits added for coding 32 message bits.
- a)
- 55) The Hamming code for the message 1110 will be
- a) 0010110
  - b) 1010110
  - c) 0011110
  - d) 0110110
- 56) The generator polynomial is 10011 and message bits are 1101011111. The CRC will be:
- a) 0010
  - b) 0001
  - c) 0110
  - d) 1110
- 57) Pick the odd one out:
- a) Stop & Wait ARQ
  - b) Stop & Wait
  - c) Selective Repeat ARQ
  - d) G-Back-N ARQ

- 58) The maximum window size for data transmission using the selective repeat protocol with n-bit frame sequence numbers is:
- a)  $2^n$
  - b)  $2^{n-1}$
  - c)  $2^{n-2}$
  - d)  $2^{n-3}$
- 59) A dedicated link between two devices can be found in
- a) Packet Switching Network
  - b) Message Switching Network
  - c) Point to Point Network
  - d) None of the above
- 60) Start and stop bits do not contain an 'information' but are used in serial communication for
- a) Error detection
  - b) Error correction
  - c) Synchronization
  - d) Slowing down the communications