Name:	**⎣⅗ UPES**
Enrolment No:	UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, July 2020

Course : Data Communication & Computer Networks	Semester : III
Program : B.Tech(CSE+OSS&OS)	Time : 02 hrs.
Course Code: CSEG2009	Max. Marks: 100

Points: **1**

1. Multiple Choice: Retransmission of packets must not be...

Question   Retransmission of packets must not be done when _____

Answer   Packet is lost

Packet is corrupted

Packet is needed

← **OK**

Points: **1**

2. Multiple Choice: Backpressure technique can be applied...

Question	Backpressure technique can be applied only to _____
Answer	Closed circuit networks
	Open circuit networks
	✓ Virtual circuit networks
	Congestion networks

Points: **1**

3. Multiple Choice: Which of the following are transport ...

Question	Which of the following are transport layer protocols used in networking?
Answer	✓ TCP and UDP
	HTTP and FTP
	UDP and HTTP
	TCP and FTP

Points: **3**

4. Multiple Choice: Let the size of congestion window of ...

Question	Let the size of congestion window of a TCP connection be 32 KB when a timeout occurs. The round trip time of the connection is 100 msec and the maximum segment size used is 2 KB. The time taken (in msec) by the TCP connection to get back to 32 KB congestion window is_____.
Answer	✓ 1100 to 1300
	1500 to 1700
	800 to 1000
	1400 to 1600

5. Multiple Choice: Which of the following functionalitie...

Points: **2**

Question	Which of the following functionalities must be implemented by a transport protocol over and above the network protocol ?
Answer	Packet delivery in the correct order
	✅ End to end connectivity
	Detection of duplicate packets
	Recovery from packet losses

6. Multiple Choice: Which of the following IP address can...

Points: **2**

Question	Which of the following IP address can be used in WAN?
Answer	✅ 15.1.5.6
	172.16.0.10
	10.0.0.1
	None

7. Multiple Choice: "If a class B network on the Internet...

Points: **2**

Question	"If a class B network on the Internet has a subnet mask of 255.255.248.0, what is the maximum number of hosts per subnet?"
Answer	2047
	1023
	✅ 2046
	1022

8. Multiple Choice: "To test the IP stack on your local h...

Points: **2**

Question	"To test the IP stack on your local host, which IP address would you ping?"

Answer

127.0.0.255

✅ 127.0.0.1

1.0.0.127

127.0.0.0

Points: **2**

☐ **9. Multiple Choice: "In the IPv4 addressing format, the n...**

Question	"In the IPv4 addressing format, the number of networks allowed under Class C addresses is"
Answer	2 power 7
	2 power 24
	✅ 2 power 21
	2 power 14

Points: **2**

☐ **10. Multiple Choice: What is the maximum number of IP addr...**

Question	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?
Answer	10
	✅ 30
	20
	40

Points: **1**

☐ **11. Multiple Choice: The class-based addressing is also kn...**

Question	The class-based addressing is also known as
Answer	✅ Classful Model
	Modern Model
	Classless Model
	Heterogeneous Model

☐ **12. Multiple Choice: What is the size of Source and Destin...**

Question	What is the size of Source and Destination IP address in IP header?
Answer	✅ 32 bits
	16 bits
	8 bits
	4 bits

☐ **13. Multiple Choice: What does the port number in a TCP co...**

Question	What does the port number in a TCP connection specify?
Answer	✅ It specifies the communication process on the two end systems
	It specifies the quality of the data & connection
	It specify the size of data
	All of the above

☐ **14. Multiple Choice: Which of the following is correct in ...**

Question	Which of the following is correct in CIDR?
Answer	There are only two networks

There are high & low class network

✅ "There is no concept of class A, B, C networks"

Class A includes Class B network

□ **15. Multiple Choice: What is the natural mask for a class ...**

Question	What is the natural mask for a class C Network?
Answer	255.255.255.1
	255.255.255.255
	255.255.255.254
	✅ 255.255.255.0

□ **16. Multiple Choice: Routing tables of a router keeps trac...**

Question	Routing tables of a router keeps track of
Answer	✅ Routes to use for forwarding data to its destination
	Distribute IP address to network devices
	Port Assignments to network devices
	MAC Address Assignments

□ **17. Multiple Choice: What is the usable size of Network bi...**

Question	What is the usable size of Network bits in Class B of IP address?

✅

Answer	● 16
	14
	8
	4

Points: **1**

18. Multiple Choice: What is the purpose of preamble bits ...

Question	What is the purpose of preamble bits in an ethernet frame?
Answer	Initialization of ARP
	Pre-bit counting
	Destination address
	● Synchronization

Points: **2**

19. Multiple Choice: "In a Go-Back-N ARQ, if the window si...

Question	"In a Go-Back-N ARQ, if the window size is 63, what is the range of sequence numbers?"
Answer	1 to 64
	1 to 63
	0 to 64
	● 0 to 63

Points: **2**

20. Multiple Choice: "Bridging occurs at_____layer o...

Question	"Bridging occurs at_____layer of the OSI reference model, whereas routing occurs at_____ layer."

Answer	"Transport Layer, Network Layer"
✓	"Data Link Layer, Network layer "
	"Network Layer, Data Link Layer"
	"Application Layer, Network Layer"

☐ 21. Multiple Choice: What are the basic activities of rout...

Question	What are the basic activities of route information management?
Answer	Route Storage
	Route Selection
	Route Advertisement
✓	All of the above

☐ 22. Multiple Choice: The name of the transmission media de...

Question	The name of the transmission media delivers the utmost transmission speed in a network?
Answer	twisted pair cable
✓	optical fiber
	coaxial cable
	fiber electrical cable

☐ 23. Multiple Choice: There are bi-directional links betwee...

Question	There are bi-directional links between each possible node. Which network topology is used for it?
Answer	Ring

Star

Tree

✅ Mesh

Points: **2**

☐ **24. Multiple Choice: "Consider a network, if the signal s ...**

Question	"Consider a network, if the signal s bandwidth is 7 KHz and the lowest frequency is 61 HHz, Find out the highest frequency? "
Answer	✅ 68 KHz
	54 KHz
	50 KHz
	61 KHz

Points: **2**

☐ **25. Multiple Choice: How many bits are required for addres...**

Question	How many bits are required for addressing the Gigabit Ethernet?
Answer	128
	64
	✅ 48
	32

Points: **1**

☐ **26. Multiple Choice: Which propagation is used if the Sign...**

Question	Which propagation is used if the Signals with a frequency lower than 2 MHz
Answer	line-of-sight
	sky
	✅ Ground

Points: **1**

27. Multiple Choice: A limited telephone network is an exa...

Question	A limited telephone network is an example of which network?
Answer	Packet switched
	✅ Circuit switched
	Bit switched
	Line switched

Points: **3**

28. Multiple Choice: "A slotted ALOHA network transmits 20...

Question	"A slotted ALOHA network transmits 200 bits frames using a shared channel with 200 kbps bandwidth. If the system (all stations put together) produces 1000 frames per second, then the throughput of the system is ...."
Answer	0.268
	0.468
	✅ 0.368
	0.568

Points: **2**

29. Multiple Choice: The checksum of 1111 and 1111 is ____...

Question	The checksum of 1111 and 1111 is _____.
Answer	A. 1111
	✅ B. 0000
	C. 1110

D. 0111

Points: **2**

30. Multiple Choice: Which ARQ mechanism deals with the tr...

Question	Which ARQ mechanism deals with the transmission of only damaged or lost frames despite the other multiple frames by increasing the efficiency & its utility in noisy channels?
Answer	Go-Back-N ARQ
	✅ Selective Repeat ARQ
	Stop-and-Wait ARQ
	All of the above

Points: **1**

31. Multiple Choice: When Useful bandwidth of medium excee...

Question	When Useful bandwidth of medium exceeds the required bandwidth of signals to be transmitted we use
Answer	Time division multiplexing
	Code division multiplexing
	✅ Frequency division multiplexing
	None of the above

Points: **2**

32. Multiple Choice: "In Go-Back-N ARQ, if 5 is the number...

Question	"In Go-Back-N ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the receive window must be _____."
Answer	✅ 1
	15

16

31

---

33. Multiple Choice: "In Selective Repeat ARQ, if 5 is the...

Points: **2**

Question	"In Selective Repeat ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the send window must be_____."
Answer	1
	15
	✅ 16
	31

---

34. Multiple Choice: "In ...., each packet o...

Points: **1**

Question	"In ...., each packet of a message follows the same path from sender to receiver."
Answer	✅ circuit switching
	message switching
	virtual approach to packet switching
	datagram approach to packet switching

---

35. Multiple Choice: Which of the following statements is ...

Points: **2**

Question	Which of the following statements is TRUE about CSMA/CD
Answer	IEEE 802.11 wireless LAN runs CSMA/CD protocol
	Ethernet is not based on CSMA/CD protocol
	✅ CSMA/CD is not suitable for a high propagation delay network like satellite network
	There is no contention in a CSMA/CD network

36. ☐   **Multiple Choice: Which of the following statement is F...**   Points: **1**

Question	Which of the following statement is False about the efficiency of the given channel?
Answer	"If we want to send big packets on the channel, then Stop and Wait is good choice."
	"If length of packet increases, efficiency of channel also increases."
✅	Distance between sender and receiver is directly proportional to efficiency of channel
	Efficient might be less if capacity of channel is high.

Points: **2**

☐ **37. Multiple Choice: How many check bits are required for ...**

Question	How many check bits are required for 16 bit data word to detect 2 bit errors and single bit correction using hamming code?
Answer	5
✅	6
	7
	8

Points: **1**

☐ **38. Multiple Choice: The address resolution protocol (ARP)...**

Question	The address resolution protocol (ARP) is used for
Answer	Finding the IP address from the DNS
	Finding the IP address of the default gateway
	Finding the IP address that corresponds to a MAC address
✅	Finding the MAC address that corresponds to an IP address

Points: **1**

39. Multiple Choice: "Transmission of data in Physical, Da...

Question	"Transmission of data in Physical, Data link, network and transport layer in the form of (respectively)."
Answer	"Frames, Packets, Bits, and Segments"
	" Packets, Bits, Frames, and Segments"
	"Packets, Frames, Segments, and Bits"
	✅ "Bits, Frames, Packets, and Segments"

40. Multiple Choice: A datagram of 3000 Byte (20 byte of I...

Points: **2**

Question	A datagram of 3000 Byte (20 byte of IP header + 2980 Byte IP payload) reached at router and must be forward to link with MTU of 500 Bytes. How many fragments will be generated and also calculate offset value of packet 6.
Answer	"8,140"
	"9,140"
	✅ 9175
	None of the above

41. Multiple Choice: "if the bandwidth of the line is 3.0 ...

Points: **2**

Question	"if the bandwidth of the line is 3.0 mbps, RTT is 45 ms and packet size is 1 KB, then find the sender utilization in stop and wait protocol."
Answer	8%
	0.09
	0.092
	✅ 0.0834

42. Multiple Choice: "If the packet size is 1kb and propag...

Points: **3**

Question	"If the packet size is 1kb and propagation time is 10 ms, the channel capacity is 10^6 b/s. then find the transmission time and utilization of sender in stop and wait protocol."
Answer	0.19
	✅ 0.29
	2.1
	1.5

Points: **2**

43. Multiple Choice: Suppose a source and destination 20 k...

Question	Suppose a source and destination 20 km apart and one way delay of 200 microsec. At what data rate does the round trip delay equals the transmission delay for a 1KB packet?
Answer	19.99 mbps
	✅ 20.48 mbps
	20.99 mbps
	20.89 mbps

Points: **2**

44. Multiple Choice: A medium has propagation delay of 35 ...

Question	A medium has propagation delay of 35 msec and a bit rate of 6kbps. For what range of frame size does stop and wait give an efficiency of 50%?
Answer	410 bits
	417 bits
	419 bits
	✅ 420 bits

Points: **3**

□ 45. Multiple Choice: "In selective repeat, Consider frames...

Question	"In selective repeat, Consider frames from 0 to 6 have been transmitted, now imagine that 0 times out, a new frame 7 is transmitted, 1 times out, 2 times out and new frame 8 is transmitted. what will be the outstanding packets in senders window?"
Answer	821706542
✅	345607128
	5607128
	1706542

Points: **3**

46. Multiple Choice: Consider a node with IP address 150.1...

Question	Consider a node with IP address 150.100.1.1. Suppose it wants to transmit a data to all nodes within the network. What is the source IP address and Destination IP address.
Answer	SIP- 150.100.1.1 and DIP-255.0.0.0
	SIP- 150.100.1.1 and DIP-255.255.0.0
	SIP- 150.100.1.1 and DIP-255.255.255.0
✅	SIP- 150.100.1.1 and DIP-255.255.255.255

Points: **2**

47. ☐ **Multiple Choice: Calculate the total number of bits al...**

Question	Calculate the total number of bits allocated for NID and HID in 30.190.155.232 address?
Answer	NID-16 bits and HID=16 bits.
✅	NID-8 bits and HID=24 bits
	NID-24 bits and HID=8 bits.
	NID-24 bits and HID=0 bits.

Points: **2**

48. Multiple Choice: A CSMA/CD network sends packet at a

r...

Question	A CSMA/CD network sends packet at a rate of 150 Mbps over 1.5 km cable. Suppose the minimum fame size for the network is 1000 bytes. What is the signal speed in km/sec?
Answer	✅ 56250
	56249
	56071
	56251

Points: **2**

49. Multiple Choice: "In Ipv4 addressing format, the numbe...

Question	"In Ipv4 addressing format, the number of network allowed under class A address is:"
Answer	2^14
	✅ 2^7
	2^21
	2^24

Points: **2**

50. Multiple Choice: consider a network with network id 20...

Question	consider a network with network id 201.1.2.0. Perform the subnetting in this network by dividing it into 4 parts. The network id of subnet A will be
Answer	✅ 201.1.2.0
	201.1.0.0
	201.1.2.128
	201.1.2.0

Points: **2**

51. Multiple Choice: consider a network with network id 20...

Question	consider a network with network id 201.1.2.0. Perform the subnetting in this network by dividing it into 4 parts. The network id of subnet B will be
Answer	201.1.2.0
	201.1.0.0
	201.1.2.128
	✅ None

Points: **2**

52. Multiple Choice: If the subnet mask of the network is ...

Question	If the subnet mask of the network is 255.255.255.224. Calculate the number of hosts present in the network
Answer	✅ 30
	32
	28
	None

Points: **3**

53. Multiple Choice: If the subnet mask of the network is ...

Question	If the subnet mask of the network is 255.255.255.224. Calculate the number of subnets present in class A.
Answer	2^18
	✅ 2^19
	2^20
	none

Points: **2**

54. Multiple Choice: If the ip address of a hop is 195.10....

Question	If the ip address of a hop is 195.10.20.128/22. Calculate the value of HID.
Answer	✅ 10
	8
	12
	none

Points: **3**

55. Multiple Choice: Suppose a network has network id 196....

Question	Suppose a network has network id 196.1.2.128/26. Perform the sub netting by divide the network into two equal parts and calculate the range of both the subnets.
Answer	✅ 196.1.2.128 to 196.1.2.159 and 196.1.2.160 to 196.1.2.191
	196.1.2.0to 196.1.2.127and 196.1.2.128 to 196.1.2.191
	196.1.2.64 to 196.1.2.127 and 196.1.2.128 to 196.1.2.191
	none

Points: **3**

56. Multiple Choice: "X and Y are the only stations on the...

Question	"X and Y are the only stations on the Ethernet. Each has a steady queue of frames to send both X and Y attempt to send a frame, collide and Y wins first back off race. Now again X and Y attempt to transmit and collide. The probability that X wins the second back off is :"
Answer	0.19
	✅ 0.125
	0.127
	0.128

Select: All   None Select by Type: - Question Type -

Delete and Regrade   Points   Update and Regrade

Hide Question Details