Name: **Enrolment No:**	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2020

Course: Data Communication and Computer Networks **Semester: IV**

Course Code: CSEG 2009 **Time: 2 Hrs.**

Programme: B Tech (CSE+MFT) **Max. Marks: 100**

Instructions: Attempt All Questions

SN	Question	A		B		C		D	
1	What is the minimum number of wires needed to send data over it serial communication link layer?	1	INCORRECT	2	CORRECT	3	INCORRECT	4	INCORRECT
2	Which data communication method is used to send data over a serial communication link?	Simplex	INCORRECT	Half-Duplex	INCORRECT	Full-Duplex	CORRECT	None	INCORRECT
3	Which of the following is an example of a bounded medium?	coaxial cable	INCORRECT	wave guide	INCORRECT	fiber optic cable	INCORRECT	all of the above	CORRECT

4	Coaxial cable has conductors with….	a common axis	CORRECT	equal resistance	INCORRECT	the same diameter	INCORRECT	none of these	INCORRECT
5	What is the main difference between synchronous and asynchronous transmission?	band width required is different.	INCORRECT	pulse height is different.	INCORRECT	clocking is derived from the data in synchronous transmission.	CORRECT	clocking is mixed with data in asynchronous transmission.	INCORRECT
6	The loss in signal power as light travels down the fiber is called.	propagation	INCORRECT	attenuation	CORRECT	scattering	INCORRECT	absorption	INCORRECT
7	One important characteristic of LAN is…	parallel transmission	INCOR8REC9T	low cast access for low bandwidth channel	INCORRECT	unlimited expansion	INCORRECT	application independent interfaces	CORRECT
8	A protocol is a rule governing a time sequence of events that must take place.	between peers	CORRECT	across an interface	INCORRECT	between non-peers	INCORRECT	none of these	INCORRECT
9	Fibre-optic cables operate at frequencies near…….	200 MHz	INCORRECT	800 MHz	INCORRECT	800 GHz	INCORRECT	800 THz	CORRECT

10	Modulation is…….	varying of some parameter of a carrier, such as its amplitude to transmit information.	CORRECT	utilization of a single transmission channel to carrying multiple signals.	INCORRECT	transmission of pulses in DC form over a copper wire.	INCORRECT	none of these.	INCORRECT
11	What layer in the TCP/IP stack is equivalent to the Transport layer of the OSI model?	Application	INCORRECT	Host-to-Host	CORRECT	Internet	INCORRECT	Network Access	INCORRECT
12	A local telephone network is an example of a _____ network.	Packet Switching	INCORRECT	Circuit Switching	CORRECT	Bit Switching	INCORRECT	Line Switching	INCORRECT
13	Most packet switches use this principle _____	Stop and wait	INCORRECT	Store and wait	INCORRECT	Store and forward	CORRECT	Stop and forward	INCORRECT
14	A topology that involves Tokens.	Bus	INCORRECT	Star	INCOR15RECT	Ring	CORRECT	Mesh	INCORRECT
15	A topology that is responsible for describing the geometric arrangement of components that make up the LAN.	Physical	CORRECT	Logical	INCORRECT	Complex	INCORRECT	Incremental	INCORRECT

16	ATM and frame relay are _____	virtual private networks	INCORRECT	virtual public networks	INCORRECT	datagram networks	INCORRECT	virtual circuit networks	CORRECT
17	ATM standard defines _____ layers.	2	INCORRECT	3	CORRECT	4	INCORRECT	5	INCORRECT
18	Which layer is used to link the network support layers and user support layers?	Session	INCORRECT	data link	INCORRECT	network	INCORRECT	transport	CORRECT
19	TCP/IP model was developed _____ the OSI model.	Prior to	CORRECT	After	INCORRECT	With no link to	INCORRECT	Same time	INCORRECT
20	Which layer is responsible for process to process delivery in a general network model?	network	INCORRECT	transprot	CORRECT	session	INCORRECT	physical	INCORRECT
21	Frame Relay networks offer an option called _____	Voice Over For Relay	INCORRECT	Voice Over Fine Relay	INCORRECT	Voice On Frame Relay	INCORRECT	Voice Over Frame Relay	CORRECT
22	Frame relay provides error detection at the _____	physical	INCORRECT	data link	CORRECT	network	INCORRECT	transport	INCORRECT

23	The narrowband ISDN has a smaller bandwidth and it can support the data rates of upto ……	62Kbits/s	INCORRECT	64Kbits/s	CORRECT	66Kbits/s	INCORRECT	68Kbits/s	INCORRECT
24	The main important technical contribution of B-ISDN is the ……	SMDS	INCORRECT	X.25	INCORRECT	ATM	CORRECT	Frame Relay	INCORRECT
25	A point-to-point protocol over ethernet is a network protocol for _____	encapsulating PPP frames inside ethernet frames	CORRECT	encapsulating ehternet framse inside PPP frames	INCORRECT	for security of ethernet frames	INCORRECT	for security of PPP frames	INCORRECT
26	Layer one of the OSI model is…….	physical	CORRECT	transport	INCORRECT	data link	INCORRECT	application	INCORRECT
27	In OSI network architecture, the routing is performed by ….	physical	INCORRECT	data link	INCORRECT	network	CORRECT	application	INCORRECT
28	Five channels, each with a l00-kHz bandwidth, are to be multiplexed together. What is the minimum bandwidth of the link if there is a need for a guard band of 10kHz between the channels to prevent interference?	500 KHZ	INCORRECT	520 KHZ	INCORRECT	540 KHZ	CORRECT	550 KHZ	INCORRECT

29	size of Frame control field in IEEE 802.11 MAC Frame format is	2 Byte	CORRECT	4 Byte	INCORRECT	8 Byte	INCORRECT	16 Byte	INCORRECT
30	There are n stations in a slotted LAN. Each station attempts to transmit with a probability p in each time slot. What is the probability that ONLY one station transmits in a given time slot?	(1-p)^(n-1)	INCORRECT	np(1-p)^(n-1)	CORRECT	p(1-p)^(n-1)	INCORRECT	1-(1-p)(n-1)	INCORRECT
31	Which of the following statements is TRUE about CSMA/CD	IEEE 802.11 wireless LAN runs CSMA/CD protocol	INCORRECT	Ethernet is not based on CSMA/CD protocol	INCORRECT	CSMA/CD is not suitable for a high propagation delay network like satellite network	CORRECT	There is no contention in a CSMA/CD network	INCORRECT
32	In an Ethernet local area network, which one of the following statements is TRUE ?	A station stops to sense the channel once it starts transmitting a frame.	INCORRECT	The purpose of the jamming signal is to pad the frames that are smaller than the minimum frame size.	INCORRECT	A station continues to transmit the packet even after the collision is detected.	INCORRECT	The exponential backoff mechanism reduces the probability of collision on retransmissions	CORRECT
33	_____ is added to data packet for error detection.	checksum bit	INCORRECT	error bit	INCORRECT	parity bit	INCORRECT	both b and c	CORRECT

34	Which error detection method uses one's complement arithmetic?	Simple parity check	INCORRECT	Two-dimensional parity check	INCORRECT	Checksum	CORRECT	CRC	INCORRECT
35	The _____ between two words is the number of differences between corresponding bits.	Hamming Code	INCORRECT	Hamming Distance	CORRECT	Hamming Rule	INCORRECT	None	INCORRECT
36	To guarantee the detection of up to 5 errors in all cases, the minimum Hamming distance in a block code must be _____.	5	INCORRECT	6	CORRECT	11	INCORRECT	12	INCORRECT
37	The _____of errors is more difficult than the _____.	Correction; Detection	CORRECT	Detection; Correction	INCORRECT	Correction; Modification	INCORRECT	Detection;Recovery	INCORRECT
38	The checksum of 1111 and 1111 is _____.	1111	INCORRECT	0000	CORRECT	1100	INCORRECT	1001	INCORRECT
39	For Stop-and-Wait ARQ, for 10 data packets sent, _____ acknowledgments are needed.	exactly 10	CORRECT	less than 10	INCORRECT	more than 10	INCORRECT	none	INCORRECT
40	The ____ Protocol has neither flow nor error control.	Stop-and-Wait	INCORRECT	Simplest	CORRECT	Go-Back-N ARQ	INCORRECT	Selective Repeat ARQ	INCORRECT

41	In Go-Back-N ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the send window must be _____.	15	INCORRECT	16	INCORRECT	31	CORRECT	1	INCORRECT
42	In Selective Repeat ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the receive window must be _____.	15	INCORRECT	16	CORRECT	31	INCORRECT	1	INCORRECT
43	Consider the following statements. I. TCP connections are full duplex. II. TCP has no option for selective acknowledgment III. TCP connections are message streams.	Only I is correct	CORRECT	Only I and II are correct	INCORRECT	Only II and III are correct	INCORRECT	All of I, II and III are correct	INCORRECT
44	The transport layer protocols used for real time multimedia, file transfer, DNS and email, respectively are:	TCP, UDP, UDP and TCP	INCORRECT	UDP, TCP, TCP and UDP	INCORRECT	UDP, TCP, UDP and TCP	CORRECT	TCP, UDP, TCP and UDP	INCORRECT
45	Which of the following system calls results in the sending of SYN packets?	socket	INCORRECT	bind	INCORRECT	listen	INCORRECT	connect	CORRECT
46	In the slow start phase of the TCP congestion control algorithm, the size of the congestion window	does not increase	INCORRECT	increases linearly	INCORRECT	increases quadratically	INCORRECT	increases exponentially	CORRECT
47	Packets of the same session may be routed through different paths in	TCP, but not UDP	INCORRECT	TCP and UDP	CORRECT	UDP, but not TCP	INCOR	Neither TCP, nor UDP	INCOR

							RECT		RECT
48	Which of the following control fields in TCP header is used during the connection establishment and data transmission	SYN and FIN	INCORRECT	SYN and RST	INCORRECT	SYN and PSH	CORRECT	PSH and RST	INCORRECT
49	Which of the following functionalities must be implemented by a transport protocol over and above the network protocol ?	Recovery from packet losses	INCORRECT	Detection of duplicate packets	INCORRECT	Packet delivery in the correct order	INCORRECT	End to end connectivity	CORRECT
50	In one of the pairs of protocols given below, both the protocols can use multiple TCP connections between the same client and the server. Which one is that?	HTTP, FTP	CORRECT	HTTP, TELNET	INCORRECT	HTTP, SMTP	INCORRECT	FTP, SMTP	INCORRECT
51	HTTP functions as a combination of	HTTP, TELNET	INCORRECT	FTP and SMTP	CORRECT	HTTP, TELNET and FTP	INCORRECT	HTTP, TELNET and DNS	INCORRECT
52	Methods for Name-address resolution in DNS	Recursive	INCORRECT	Iterative	INCORRECT	Recursive and Iterative	CORRECT	Inverse	INCORRECT
53	Different types of tree used in DNS are	Generic	INCORRECT	Country	INCORRECT	Inverse	INCORRECT	Generic, country and Inverse	CORRECT

54	Which of the following services use TCP? 1: DHCP 2: SMTP 3: HTTP 4: TFTP 5: FTP	1 and 2	INCORRECT	2, 3 and 5	CORRECT	1, 2 and 4	INCORRECT	1, 3 and 4	INCORRECT
55	You want to implement a mechanism that automates the IP configuration, including IP address, subnet mask, default gateway, and DNS information. Which protocol will you use to accomplish this?	SMTP	INCORRECT	SNMP	INCORRECT	DHCP	CORRECT	FTP	INCORRECT
56	Which of the following protocols uses both TCP and UDP?	FTP	INCORRECT	SNMP	INCORRECT	Telnet	INCORRECT	DNS	CORRECT
57	Which intermediaries are more likely to get involved during the transfer function of an e-mail system?	Storage and forwarding of e-mail for certain addresses	INCORRECT	Act as gateways to other e-mail or messaging systems	INCORRECT	Both a & b	CORRECT	None	INCORRECT
58	A packet has arrived in which the offset value is 200, the value of HLEN is 7, and the value of the total length field is 100. What are the numbers of the first byte and the last byte?	1600 and 1672	INCORRECT	1600 and 1671	CORRECT	1500 and 1572	INCORRECT	1500 and 1571	INCORRECT
59	An IPv4 packet has arrived with the first few hexadecimal digits as shown 0x45000028000100000102 IN	20	INCORRECT	40	INCORRECT	32	CORRECT	60	INCORRECT

	HEXADECIMAL. What is the total length of packet.								
60	The subnet mask for a particular network is 255.255.31.0. Which of the following pairs of IP addresses could belong to this network?	172.57.88.62 and 172.56.87.233	INCORRECT	10.35.28.2 and 10.35.29.4	INCORRECT	191.203.31.87 and 191.234.31.88	INCORRECT	128.8.129.43 and 128.8.161.55	CORRECT
61	IPv6 does not support which of the following addressing modes?	unicast addressing	INCORRECT	Multicast addressing	INCORRECT	Broadcast Address	CORRECT	anycast address	INCORRECT
62	Which of the following fields in IPV4 datagram is not related to fragmentation?	Type of service	CORRECT	Fragment offset	INCORRECT	Flags	INCORRECT	Identification	INCORRECT
63	Disctance Vector Approach is used in which routing Protocol	OSPF	INCORRECT	RIP	CORRECT	BGP	INCORRECT	I-BGP	INCORRECT
64	in which routing protocol Dijkstra algorithm is used to calculate the shortest path	OSPF	CORRECT	RIP	INCORRECT	BGP	INCORRECT	I-BGP	INCORRECT
65	message from device A consist of packet X and Y. If the datagram packet switching approach is used. Packet X path is …… packet Y path	is same as	INCORRECT	dependent of	INCORRECT	independent of	CORRECT	is always different from	INCORRECT

66	echo request and echo reply message is used for	echo pupose	INCORRECT	address purpose	INCORRECT	Diagnostic purpose	CORRECT	synchronization purpose	INCORRECT
67	Two computers C1 and C2 are configured as follows. C1 has IP address 203.197.2.53 and netmask 255.255.128.0. C2 has IP address 203.197.75.201 and netmask 255.255.192.0. which one of the following statements is true?	C1 and C2 both assume they are on the same network	INCORRECT	C2 assumes C1 is on same network, but C1 assumes C2 is on a different network	INCORRECT	C1 assumes C2 is on same network, but C2 assumes C1 is on a different network	CORRECT	C1 and C2 both assume they are on different networks	INCORRECT
68	Which one of the following is TRUE about interior Gateway routing protocols - Routing Information Protocol (RIP) and Open Shortest Path First (OSPF)	RIP uses distance vector routing and OSPF uses link state routing	CORRECT	OSPF uses distance vector routing and RIP uses link state routing	INCORRECT	Both RIP and OSPF use link state routing	INCORRECT	Both RIP and OSPF use distance vector routing	INCORRECT
69	One of the header fields in an IP datagram is the Time to Live(TTL)field.Which of the following statements best explains the need for this field?	It can be used to prevent packet looping	CORRECT	It can be used to prioritize packets	INCORRECT	It can be used to reduce delays	INCORRECT	It can be used to optimize throughput	INCORRECT
70	In _____ routing, we assume that there is one node (or more) in each autonomous system that acts on behalf of the entire autonomous system.	distance vector	INCORRECT	path vector	CORRECT	link state	INCORRECT	none of the above	INCORRECT
71	Consider three machines A, B and C with IP addresses 100.10.5.2, 100.10.5.5 and 100.10.5.6 respectively. The subnet mask is set to 255.255.255.252 for all the	A, B and C all belong to the same subnet	INCORRECT	Only B and C belong to the same subnet	CORRECT	A, B, and C belong to	INCOR	Only A and B belong to the same subnet	INCOR

	three machines.Which one of the following is true?					three different subnets	RECT		RECT
72	You have an IP address of 172.16.13.5 with a 255.255.255.128 subnet mask. What is your class of address, subnet address, and broadcast address?	Class A, Subnet 172.16.13.0, Broadcast address 172.16.13.127	INCORRECT	Class B, Subnet 172.16.13.0, Broadcast address 172.16.13.127	CORRECT	Class B, Subnet 172.16.0.0, Broadcast address 172.16.255.255	INCORRECT	Class B, Subnet 172.16.13.0, Broadcast address 172.16.13.255	INCORRECT
73	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	14	INCORRECT	15	INCORRECT	30	CORRECT	62	INCORRECT
74	You need to subnet a network that has 5 subnets, each with at least 16 hosts. Which can be your choise	255.255.255.192	INCORRECT	255.255.255.224	CORRECT	255.255.255.240	INCORRECT	255.255.255.248	INCORRECT
75	Which of the following is the broadcast address for a Class B network ID using the default subnetmask?	172.16.10.255	INCORRECT	255.255.255.255	CORRECT	172.16.255.255	CORRECT	172.255.255.255	INCORRECT