31. a.	Draw the TCP segment format and describe the role of each header fields.	12	2	4	7
	(OR)				
b. i.	Illustrate the working of 3 phases of TCP Congestion Control Policy.	8	3	4	7
ii.	Explain how is leaky bucket mechanism helpful for traffic shapping?	4	3	4	7
32. a. i.	Explain the e-mail architecture with neat sketches.	8	1	5	3
ii.	Write short note on HTTP messages.	4	1	5	3
	(OR)				
b. i.	Explain about the functions of Network Management System.	6	1	5	3
ii.	Write short note of data Compression Techniques.	6	1	5	3

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Reg. No.															

B.Tech. DEGREE EXAMINATION, MAY 2023
Sixth Semester

18ECC303J– COMPUTER COMMUNICATION NETWORKS
(For the candidates admitted from the academic year 2018-2019 to 2021-2022)

Note:
(i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
(ii) **Part - B & Part - C** should be answered in answer booklet.

Time: 3 hours Max. Marks: 100

PART – A (20 × 1 = 20 Marks)
Answer **ALL** Questions

		Marks	BL	CO	PO
1.	What is the maximum payload size in IEEE 802.5 frame? (A) 1500 Bytes (B) 4500 Bytes (C) 8182 Bytes (D) 8190 Bytes	1	1	1	7
2.	Which of the following is not a field in Token frame of Token Ring LAN? (A) Frame Control (B) Frame Status (C) Start Delimeter (D) End Delimeter	1	1	1	7
3.	In which topology, a station needs multiple ports? (A) Bus (B) Mesh (C) Ring (D) Star	1	2	1	7
4.	Asynchronous Transfer mode Networks use _____. (A) Circuit Switching (B) Virtual Circuit Switching (C) Datagram Switching (D) Message Switching	1	2	1	7
5.	_____ is employed to solve hidden terminal problem in WLAN. (A) DIFS/SIFS (B) RTS/CTS (C) Exponential Backoff (D) Carrier Sensing	1	2	2	3
6.	Identify the Unicast address (A) 0A:10:5C:2B:FF:11 (B) 27:0A:00:70:ED:45 (C) FF:FF:FF:FF:FF:FF (D) 59:FE:BC:64:38:00	1	2	2	3
7.	_____ is not a layer 2 protocol in OSI model. (A) CSMA/CA (B) PPP (C) ARP (D) CSMA/CD	1	2	2	3
8.	How many errors can be corrected using parity check coding technique? (A) 0 (B) 1 (C) 2 (D) 3	1	2	2	3
9.	Identify the IPV4 class"C" default mask. (A) 255.0.0.0 (B) 255.255.0.0 (C) 255.255.255.0 (D) 255.255.255.255	1	1	3	3

10.	Internet Protocol is _____ and _____. (A) Reliable and Connection less (B) Reliable and Connection Oriented (C) Unreliable and Connectionless (D) Unreliable and Connection Oriented	1	2	3	3
11.	16.2.8.128/24 is a IP address in block of classless address. Find the total numbers of addresses in this block. (A) 8 (B) 16 (C) 128 (D) 256	1	2	3	3
12.	Find the odd one out. (A) RIP (B) OSPF (C) BGP (D) ICMP	1	1	6	3
13.	_____ TCP segment is never acknowledged. (A) SYN (B) FIN (C) ACK (D) DATA	1	1	4	7
14.	If delay transmission is not acceptable, then _____ flag is set. (A) Urgent (B) Push (C) Reset (D) Pull	1	2	4	7
15.	UDP is not used in _____ (A) RIP (B) FTP (C) SNMP (D) Multicasting	1	2	4	7
16.	The algorithm that allows bursty traffic of a regulated maximum rate is_____ (A) Admission Control (B) Priority Queuing (C) Leaky Bucket (D) Token Bucket	1	1	4	7
17.	Trivial FTP is built on _____. (A) IP (B) FTP (C) UDP (D) HTTP	1	1	5	3
18.	SMTP is a _____protocol. (A) Push (B) Pull (C) Push and Pull (D) Neither Push nor Pull	1	1	5	3
19.	RSA is a _____. (A) Stream Cipher (B) Symmetric Cipher (C) Product Cipher (D) Block Cipher	1	2	5	3
20.	Telnet Stands for _____. (A) Telecommunication Network (B) Terminal Network (C) Terrestrial Network (D) Teller Network	1	1	5	3

PART – B (5 × 4 = 20 Marks)

Answer **ANY FIVE** Questions

		Marks	BL	CO	PO
21.	Illustrate the usage of TCP sending and receiving buffer.	4	2	4	7
22.	Compare datagram and virtual circuit switching techniques.	4	2	1	7
23.	Generate the code word using CRC divisor polynomial x^3+x+1 for the data word 1001.	4	3	2	3
24.	Compare Go-back-N and selective repeat ARQ protocols.	4	2	2	3
25.	An IP datagram has first few hexadecimal digits as "0×45000028000100000517….". Find the header length, total length, time to live and upper layer protocol.	4	3	3	3
26.	List the SIP request messages and their functions.	4	1	5	3
27.	Write a detailed note on FTP.	4	1	5	3

PART – C (5 × 12 = 60 Marks)

Answer **ALL** Questions

		Marks	BL	CO	PO
28. a. i.	Classify network topology. List their merits and demerits.	8	2	1	7
ii.	List the specifications of Fast Ethernet Variants.	4	2	1	7
	(OR)				
b. i.	Compare Ethernet, Token Ring and FDDI.	10	2	1	7
ii.	Give the applications of the following. (i) Simplex (ii) Full duplex (iii) Serial Transmission (iv) Parallel Transmission	2	2	1	7
29. a.	Classify the medium control access protocols and briefly explain them.	12	2	2	3
	(OR)				
b.	Draw the HDLC protocol frame format and explain the fields.	12	2	2	3
30. a. i.	Divide the block with first address 14.24.74.0/24 into 3 sub-blocks with 10, 60 and 120 addresses respectively.	6	3	3	3
ii.	Illustrate two node instability in DVR and suggest solution.	6	3	6	3
	(OR)				
b. i.	What are the advantages of IPV6 over IPV4?	4	2	3	3
ii.	List and briefly explain the OSPF messages.	8	2	6	3