Reg. No.															

B.Tech. DEGREE EXAMINATION, MAY 2024

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. The maximum payload length of IEEE 802.3 frames is _____ bytes. (A) 1500 (B) 1518 (C) 4500 (D) 8192	1	1	1	12
2. _____is device that operates in physical layer. (A) Router (B) Switch (C) Bridge (D) HUB	1	1	1	7
3. PSTN is _____switching network. (A) Circuit (B) Datagram (C) Message (D) Virtual circuit	1	1	1	7
4. _____topology uses multipoint connection. (A) Star (B) Ring (C) Bus (D) Mesh	1	1	1	7
5. Identify the incorrect pair (A) Physical layer – Synchronization (B) Data link layer-Error detection (C) Network layer – Routing (D) Transport layer – Host-to-host delivery	1	1	2	3
6. _____error(s) can be corrected by a code with d_{min}=4. (A) One (B) Two (C) Three (D) Four	1	2	2	3
7. Which category of HDLC frames undergoes error and flow control mechanisms, comprising send and receiver sequence numbers? (A) U-frames (B) I-frames (C) S-frames (D) T-frames	1	2	2	3
8. Vulnerable period in CSMA/CD is equal to _____ (A) Buffering delay (B) Transmission delay (C) Propagation delay (D) Round trip delay	1	2	2	3

9.	_____is the 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.	What type of service is provided when the ToS bit are 0100? (A) Maximize reliability (B) Maximize throughput (C) Minimize delay (D) Minimize cost	1	2	3	3
11.	_____is not a solution for count-to-infinity problem in DVR algorithm. (A) Defining infinity (B) Bit stuffing (C) Split horizon (D) Split horizon with poisonous reverse	1	2	6	5
12.	An organization is granted a block of address where one address is 127.30.2.64/20. The organization needs 10 subsets. What is the subnet prefix length? (A) /10 (B) /02 (C) /30 (D) /24	1	3	3	3
13.	_____segment never consumes sequence number in TCP. (A) Data (B) SYN (C) FIN (D) ACK	1	2	4	7
14.	UDP is not suitable for _____ (A) Multicasting (B) SNMP (C) RIP (D) FTP	1	2	4	7
15.	The SYN flooding attack belongs to _____ (A) Denial of service attack (B) Traffic analysis attack (C) Physical attack (D) Snooping attack	1	2	4	3
16.	_____control keeps the load below the network capacity. (A) Flow (B) Error (C) Congestion (D) Priority	1	2	4	3
17.	Trivial FTP (TFTP) is built over _____ (A) IP (B) FTP (C) HTTP (D) UDP	1	1	5	3
18.	For p=11 and q=19, choose e=17. Apply RSA encryption find cipher text of plain text of 5. (A) 23 (B) 56 (C) 80 (D) 92	1	3	5	3
19.	SMPT is a _____protocol. (A) Push (B) Pull (C) Push and pull (D) Neither push nor pull	1	2	5	3

ıe first section of an URL identifier is _____

(A) Host (B) Port (C) Path (D) Protocol

1 2 5 3

PART – B (5 × 4 = 20 Marks)

Answer **ANY FIVE** Questions

		Marks	BL	CO	PO
21.	Define the parameters used to measure the network performance.	4	2	1	7
22.	Find the codeword of the data "11001001" using the CRC divisior x^3+1.	4	3	2	3
23.	Compare GO-BACK-N and selective repeat ARQ schemes.	4	2	2	3
24.	List the advantages of IPv6 over IPv4.	4	2	3	7
25.	An address in a given block is 180.0.17.10. Find the first and last address and the number of addresses in the block.	4	3	3	3
26.	Justify: Today's traffic intensive internet functioning services due to TCP congestion control.	4	3	4	3
27.	What is SNMP? What are meant by manager and agents in SNMP?	4	2	5	3

PART – C (5 × 12 = 60 Marks)

Answer **ALL** Questions

		Marks	BL	CO	PO
28. a.	Draw the token ring frames formats and briefly explain the working of IEEE 802.5 LAN	12	2	1	7
	(OR)				
b.	List the types of ethernet and specify their features.	12	2	1	12
29. a.	Explain the functions of HDLC protocol with neat frame formats.	12	2	2	3
	(OR)				
b.	Describe the persistence and back off procedures of CSMA/CD protocol with neat flow diagrams.	12	2	2	3
30. a.i.	Draw the IPv4 datagram format and describe the functions of its various fields.	8	2	3	3
ii.	The first few hexadecimal digits of an IP datagram is "0×45 00 00 28 00 01 00 00 05 17……". Find the HLEN and total length values. What is upper layer protocol? How many loops can this packet travel before being dropped?	4	4	3	3
	(OR)				

b. List out the following

(i) Timers in RIP — 4 2 6 5

(ii) Types of links in OSPF — 4

(iii) Types of packets in BGP — 4

31. a. Draw TCP segment format and describe the functions of the various fields in detail. — 12 2 4 3

(OR)

b. Explain how are leaky and token bucket implementation helpful for traffic shaping. Draw their hybrid model with FIFO queuing and highlight its advantages. — 12 2 4 3

32. a.i. List any four SIP request messages and describe their functions. — 8 2 5 3

ii. How is HTTP is similar to FTP? — 4 3 5 3

(OR)

b.i. Explain briefly the various compression techniques. — 8 2 5 3

ii. Illustrate the operation of E-mail service when sender and receiver are not directly connected to the main server. — 4 2 3 5

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