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. 1 1 3 3

(A) 255.0.0.0 (B) 255.255.0.0
(C) 255.255.255.0 (D) 255.255.255.255

10. What type of service is provided when the ToS bit are 0100? 1 2 3 3

(A) Maximize reliability (B) Maximize throughput
(C) Minimize delay (D) Minimize cost

11. _____is not a solution for count-to-infinity problem in DVR algorithm. 1 2 6 5

(A) Defining infinity (B) Bit stuffing
(C) Split horizon (D) Split horizon with poisonous reverse

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? 1 3 3 3

(A) /10 (B) /02
(C) /30 (D) /24

13. _____segment never consumes sequence number in TCP. 1 2 4 7

(A) Data (B) SYN
(C) FIN (D) ACK

14. UDP is not suitable for _____ 1 2 4 7

(A) Multicasting (B) SNMP
(C) RIP (D) FTP

15. The SYN flooding attack belongs to _____ 1 2 4 3

(A) Denial of service attack (B) Traffic analysis attack
(C) Physical attack (D) Snooping attack

16. _____control keeps the load below the network capacity. 1 2 4 3

(A) Flow (B) Error
(C) Congestion (D) Priority

17. Trivial FTP (TFTP) is built over _____ 1 1 5 3

(A) IP (B) FTP
(C) HTTP (D) UDP

18. For p=11 and q=19, choose e=17. Apply RSA encryption find cipher text of plain text of 5. 1 3 5 3

(A) 23 (B) 56
(C) 80 (D) 92

19. SMPT is a _____protocol. 1 2 5 3

(A) Push (B) Pull
(C) Push and pull (D) Neither push nor pull

ıe first section of an URL identifier is _____

A) Host	(B) Port	1	2	5	3
(C) Path	(D) Protocol				

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
   (ii) Types of links in OSPF
   (iii) Types of packets in BGP

4			
4	2	6	5
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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