Reg. No.												

Question Paper Code	11906

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL/MAY 2023

Sixth Semester

Computer Science and Engineering

(Common to Electronics and Instrumentation Engineering)

20ESCS601 - COMPUTER NETWORKS

(Regulations 2020)

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	Define Network.	*2,K1,CO1*
2.	What are the criteria necessary for an effective and efficient network?	*2,K1,CO1*
3.	What is framing?	*2,K1,CO2*
4.	State the functions of LLC.	*2,K1,CO2*
5.	What are the four internetworking devices?	*2,K1,CO3*
6.	Give short notes on EGB.	*2,K2,CO3*
7.	What is called pseudo header?	*2,K1,CO4*
8.	What are additive increase/multiplicative decrease in TCP mean?	*2,K1,CO4*
9.	What is the function of SMTP?	*2,K1,CO5*
10.	Write the differences between a user agent (UA) and a mail transfer agent (MTA)?	*2,K2,CO5*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Calculate the total time required to transfer a 1.5 MB file in the following cases, assuming an RTT of 80 ms, a packet size of 1 KB data, and an initial 2×RTT of handshaking before data is sent: *13,K2,CO1*

    a) The Bandwidth is 10 Mbps, and data packets can be sent continuously.

    b) The bandwidth is 10 Mbps, but after we finish sending each data packet we must wait one RTT before sending the next.

    The link allows infinitely fast transmit, but limits bandwidth such that only 20 packets can be sent per RTT.

OR

b) Discuss in detail about the network performance. *13,K2,CO1*

12. a) Explain in detail about stop and wait protocol. *13,K2,CO2*

OR

b) Explain in detail about CSMA / CD in Ethernet. *13,K2,CO2*

13. a) Write in detail about IPv6 listing the packet format, fragmentation process and address notation. *13,K2,CO3*

OR

b) Explain in detail about ICMP and the types of error reporting. *13,K2,CO3*

14. a) Explain in detail about TCP. *13,K2,CO4*

OR

b) Explain in detail about UDP. *13,K2,CO4*

15. a) Explain the SMTP and HTTP. Give their uses, state strengths and weaknesses. *13,K2,CO5*

OR

b) (i) Illustrate the features of FTP and its operation. *6,K2,CO5*

(ii) Illustrate the features of TELNET. What is the need for network virtual terminal? *7,K2,CO5*

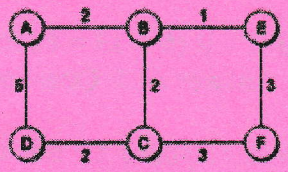
PART - C (1 × 15 = 15 Marks)

16. a) For the network given in the figure, find the global distance – vector tables when *15,K3,CO3*

(i) Each node knows only the distances to its immediate neighbours.

(ii) Each node has reported the information it had in the preceding step to its immediate neighbours.

(iii) Step (ii) happens a second time.



OR

b) Tabulate the shortest path between all nodes for the following network using DVR. *15,K3,CO3*