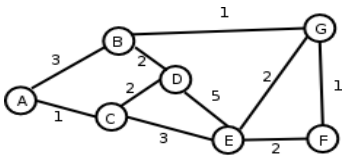
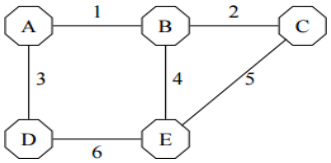
CS 3591- COMPUTER NETWORKS UNIT-I PART-B			
1	Explain different types of networks in detail with neat diagram ***(Nov/Dec 2021)***	**C301.1**	BL1
3	Discuss in detail about the layers in OSI model. ***(Nov 10,11,12,15,19) (May 12) (May / June 2021)***	**C301.1**	BL2
4	Explain in detail about the TCP/IP protocol suite with neat diagram	**C301.1**	BL1
5	Discuss how the Simple Mail Transfer Protocol (SMTP) is useful in electronic mail. (***May 12,15) (Nov 13,15) (Nov 19) (May/June 2021) (Nov 21)***	**C301.1**	BL2
6	Explain the role of a DNS on a computer network, including its involvement in the process of a user accessing a web page. ***(May 13) (Nov 15, 19) (Nov 21)***	**C301.1**	BL1
7	Explain about HTTP. Give their uses, state strengths and weaknesses. ***(Nov 10,13)***	**C301.1**	BL1
8	Explain about FTP. ***(Nov 12, 13, 19), May 13)***	**C301.1**	BL1
9	Explain in detail about SNMP.	**C301.1**	BL1
10	Explain in detail about sockets with an example.	**C301.1**	BL1
UNIT-II / PART-B			
1	Write short notes on ***(May 12) (Nov 19) (Nov 21)*** (i) **TCP segment format** (ii) Silly window syndrome (Or) discuss the silly window syndrome and explain how to avoid it.	**C301.2**	BL1
2	With neat architecture, Explain TCP and its sliding window algorithm for flow control. ***(Nov 15)***	**C301.2**	BL2
3	Describe with examples the three mechanisms by which congestion control is achieved in TCP. ***(Nov 13,15)(May 15,16)(Nov 19)***	**C301.2**	BL2
4	Discuss congestion avoidance algorithm like DEC bit method and random early detection in transport layer with an example.***(May 12,17)***	**C301.2**	BL2
5	What are the 2 broad categories of congestion control mechanisms? Briefly explain all the techniques. **(May / June 2021)**	**C301.2**	BL1
6	Explain connection establishment and connection closing in TCP (Or) Describe how reliable and ordered delivery is achieved through TCP. ***(Nov 13) (May 15)***	**C301.2**	BL2
7	Explain the significance of Clark's solution and Nagle's algorithm. (Or) What is the need for Nagle's algorithm? How does it determine when to transmit data? ***(May 13)***	**C301.2**	BL4
8	Define UDP. Discuss the operations of UDP. Explain UDP checksum with one example. ***(Nov 21)***	**C301.2**	BL2

9	Discuss the effectiveness of Go Back N and Selective Repeat ARQ among the Sliding window Protocols. ***(Nov 21)***	**C301.2**	BL2
10	Explain SCTP in Detail ***(May 17)***	**C301.2**	BL2
11	Explain the association establishment of SCTP through four-way handshake in detail.	**C301.2**	BL2
12	Furnish the packet format of Stream Control Transmission Protocol with its fields. How the data are transferred using 4-way handshaking? ***(May / June 2021)***	**C301.2**	BL1
13	Explain the various approaches to improve quality of services in a data transmission network.	**C301.2**	BL2
UNIT-III / PART-B			
1	Explain Packet Switching in detail.	**C301.3**	BL2
2	i) Discuss the IP addressing methods. (May/June2014) ii) Write short notes on ARP. (May/June2014) or Explain in detail ARP. (Nov/Dec 2015)	**C301.3**	BL2
3	Explain in detail about DHCP. (Nov/Dec 2015)	**C301.3**	BL2
4	What is the need for ICMP? Mention ICMP MESSAGES and their purpose. (May/June 2013)	**C301.3**	BL1
5	Explain about IPV6? Compare IPV4 and IPV6 ***(May 16)(Nov 21)***	**C301.3**	BL2

6	Discuss about address Resolution protocols. (Nov/Dec 2013)	**C301.3**	BL2
7	Explain in detail about: i) ICMP ii) ARP iii) RARP. ***(Nov 19)***	**C301.3**	BL2
8	Explain IPv4 packet format and how fragmentation is applied in datagram delivery.	**C301.3**	BL3
9	Draw an IPv4 datagram and explain about the fields present in it.	**C301.3**	BL2
	UNIT IV - PART B		
1	Explain what is Distance Vector Routing and Demonstrate how distance table gives routing table ***(Nov 21)***	**C301.4**	BL2
2	Discuss about Link-state routing and routers. ***(Nov 12) (May 15)***	**C301.4**	BL2
3	Explain about the inter domain routing (BGP) routing algorithms.	**C301.4**	BL2
4	Explain the Routing Information protocol/Distance vector routing in detail. ***(Nov 13,15) (May 15,16)(Nov 19)***	**C301.4**	BL2
5	What are the different routing algorithms? List out their pros and cons. ***(May / June 2021)***	**C301.4**	BL1
6	Explain Link state routing with Dijkstra's algorithm for the following graph. 	**C301.4**	BL3
7	Explain Distance Vector Routing Algorithm for the graph given below. 	**C301.4**	BL3
8	Explain in detail the operation of OSPF protocol by considering a suitable network. ***(May 17)***	**C301.4**	BL3
9	Explain DVMRP multicast routing in detail	**C301.4**	BL2
10	Explain PIM multicast routing in detail.	**C301.4**	BL2
	UNIT-V / PART-B		
1	Given a remainder of 111, a data unit of 10110011 and a divisor of 1001, is there an error in the data unit. Justify your answer with necessary principles. ***(May 14)***	**C301.5**	BL3
2	Explain the various error detection techniques with example. (Nov 10,12), (May 12,16)	**C301.5**	BL2
3	The message X5 + X4 + X 11001001 is to be transmitted, using CRC error detection algorithm. Assuming the CRC polynomial to be X3 + X2 + 1, determine the three-bit CRC code that should be appended to message. (May / June 2021)	**C301.5**	BL3
4	Discuss in detail about the HDLC protocol (Bit Oriented Protocol). ***(May 16) (Nov 19)***	**C301.5**	BL2

5	Explain various flow control mechanisms. i) Stop Wait protocol ii) Go Back-N iii) Selective Repeat (Nov 15)	**C301.5**	BL2
6	Discuss in detail about the PPP protocol (Byte Oriented Protocol).	**C301.5**	BL2
7	Describe the CSMA/CD protocol and comment on its performance for medium access. ***(May 11,14,17) (Nov 19)***	**C301.5**	BL4
8	Explain the functioning of wireless LAN in detail. ***(Nov 10,12,15) (May 15)***	**C301.5**	BL2
9	Explain how hidden node and exposed node problem is solved in IEEE 802.11 ***(Nov 13)***	**C301.5**	BL2
10	Explain Transmission media and its types in detail. ***(May / June 2021)***	**C301.5**	BL2
11	Explain the various performance metrics in detail.	**C301.5**	BL2
12	Explain Circuit Switching in detail. ***(Nov 19)(Nov/Dec 2021)***	**C301.5**	BL2