

U.S.N.										
--------	--	--	--	--	--	--	--	--	--	--

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

June 2025 Semester End Main Examinations

Programme: B.E.

Semester: VI

Branch: Electronics and Telecommunication Engineering

Duration: 3 hrs.

Course Code: 19ET6PCCCN

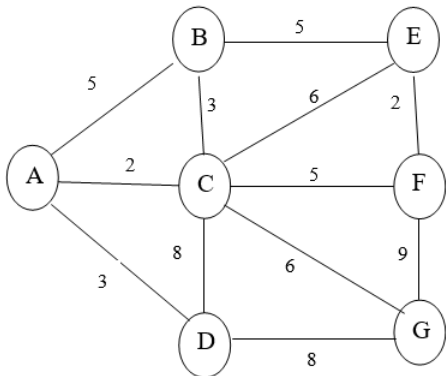
Max Marks: 100

Course: Computer Communication Networks

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT - I								CO	PO	Marks
1	a)	With diagram explain Star and Ring topology								CO1	-	07
	b)	With diagram explain function and responsibilities of OSI model transport layer								CO1	-	06
	c)	With diagram explain V.32 modem standard								CO1	-	07
		OR										
2	a)	Explain the TCP/IP protocol suite with relevant diagram								CO1	-	07
	b)	With diagram explain logical and physical addressing mechanism								CO1	-	06
	c)	Explain character stuffing and Byte stuff the data in the following figure and retrieve the data the receiver								CO2	PO1	07
		ESC		Flag			ESC	ESC		Flag		
		UNIT - II										
3	a)	Write an algorithm for noiseless stop and wait protocol								CO1	-	07
	b)	With diagram explain transition phases of PPP protocol								CO1	-	06
	c)	Explain CSMA/CD flow diagram								CO1	-	07
		OR										
4	a)	With frame format explain supervisory frame in HDLC protocol								CO1	-	07
	b)	With diagram explain Select and poll functions in polling access method								CO1	-	06
	c)	A pure ALOHA network transmits 200-bit frames on a shared channel of 200 kbps. What is the throughput if the system (all stations together) produces a. 1000 frames per second b. 500 frames per second c. 250 frames per second.								CO2	PO1	07

		UNIT - III			
5	a)	With diagram explain transition from IPv4 to IPv6	CO1	-	07
	b)	Consider you have 4 departments, namely: Sales, Accounts, HR and IT, your manager wants you to design a network that each department has 32, 64, 8,128 hosts respectively, organization has given you the block 192.168.1.0/24	CO2	PO1	06
	c)	Consider following network, determine the shortest path tree assuming that the root node is Node D? Show working with node labels as required using Dijkstra Shortest Path algorithm 	CO3	PO2	07
		OR			
6	a)	With diagram explain NAT address translation	CO1	-	07
	b)	An IPv4 datagram has arrived with the following information in the header in hexadecimal 0x45 00 00 54 00 03 58 50 20 06 00 00 7C 4E 03 02 B4 0E 0F 02 i. What is the version of packet ii. Are there any options iii. Is the packet fragmented iv. What is the size of the data? v. How many nodes this packet travel vi. What is the type of service?	CO2	PO1	06
	c)	With diagram explain reserved addresses of IPv6 format	CO1	-	07
		UNIT - IV			
7	a)	With diagram explain TCP header format	CO1	-	10
	b)	With diagram explain connection establishment and Termination in TCP using three way handshake	CO1	-	10
		OR			
8	a)	With relevant diagram explain different types of scheduling mechanism to improve the quality of service	CO1	-	10
	b)	With relevant diagram explain closed loop congestion control	CO1	-	10

			UNIT - V			
	9	a)	With diagram explain different domains of DNS in internet	<i>CO1</i>	-	10
		b)	With diagram and example explain remote log in service	<i>CO1</i>	-	10
			OR			
	10	a)	With diagram explain different scenarios of electronic mail service	<i>CO1</i>	-	10
		b)	With diagram explain WWW architecture and browser structure	<i>CO1</i>	-	10

B.M.S.C.E. - EVEN SEM 2024-25