Course code: **V23CST10** **V23** HTNO | | | | | | | | | | |

SRI VASAVI ENGINEERING COLLEGE (Autonomous)

B.Tech V Semester Regular Examinations, November-2025

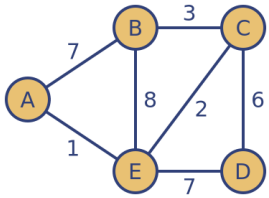
(Model Paper-1)

COMPUTER NETWORKS

(Common To CSE & CST)

Time: 3 Hrs Max. Marks: 70

			PART-A **Answer All the Questions.**	
1.				**20 M**
	a		Define a computer network.	CO1-K1(2M)
	b		List any two types of network topologies.	CO1-K1(2M)
	c		Define framing in data link layer.	CO2-K1(2M)
	d		What is flow control?	CO2-K1(2M)
	e		Define ALOHA protocol.	CO3-K1(2M)
	f		List two random access methods.	CO3-K1(2M)
	g		Define packet switching.	CO4-K1(2M)
	h		List two services provided by the network layer.	CO4-K1(2M)
	i		Define the transport layer.	CO5-K1(2M)
	j		List two functions of UDP.	CO5-K1(2M)
			PART-B **All Questions Carry Equal Marks**	
2.				**10 M**
	A.	i.	Explain the main features of LAN, MAN, and WAN.	CO1- K2(5M)
		ii.	Differentiate between OSI and TCP/IP models.	CO1- K2(5M)
			OR	
	B.	i.	Explain various transmission media used in physical layer and compare their characteristics.	CO1- K2(10M)
3.				**10 M**
	A.	i.	Describe the need for flow control in data link layer	CO2- K2(5M)
		ii	Use the Go-Back-N protocol to transmit five frames and illustrate retransmission in case of errors.	CO2- K3(5M)
			OR	
	B.	i.	Use CRC to compute the transmitted frame and show error checking for a given data stream. Data: 1010100101 Generator: 101011	CO2- K3(10M)
4.				**10 M**
	A.	i.	Explain the operation of the ALOHA protocol.	CO3- K2(5M)
		ii.	Differentiate between random access and controlled access methods.	CO3- K2(5M)
			OR	
	B.	i.	Describe in detail the various controlled access techniques with examples.	CO3- K2(10M)
5.				**10 M**
	A.	i.	Describe the differences between connection-oriented and connectionless services.	CO4- K2(5M)
		ii.	Apply the leaky bucket algorithm to a traffic control scenario.	CO4- K3(5M)
			OR	
	B.	i.	Apply Dijkstra’s algorithm to a network and find the shortest path from one node to all others.	CO4- K3(10M)

				
6.				**10 M**
	A.	i.	Describe the structure of a TCP segment.	CO5- K2(5M)
		ii.	Explain the working of HTTP protocol in the World Wide Web.	CO5- K2(5M)
			OR	
	B.	i.	Compare and contrast various application layer protocols used in modern networks.	CO5- K2(10M)
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