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

SRI VASAVI ENGINEERING COLLEGE (Autonomous)

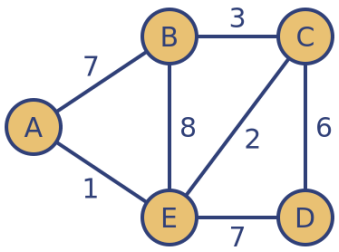
B.Tech V Semester Regular Examinations, November-2025

(Model Paper-2)

COMPUTER NETWORKS

(Common To CSE & CST)

Time: 3 Hrs Max. Marks: 70

			PART-A **Answer All the Questions.**	
1.				**20 M**
	a		State the function of the physical layer.	CO1-K1(2M)
	b		List the layers of the TCP/IP model.	CO1-K1(2M)
	c		List two error detection techniques.	CO2-K1(2M)
	d		What is CRC?	CO2-K1(2M)
	e		What does CSMA stand for?	CO3-K1(2M)
	f		Name any two controlled access techniques.	CO3-K1(2M)
	g		What is a virtual circuit?	CO4-K1(2M)
	h		Name any two routing algorithms.	CO4-K1(2M)
	i		What is a port number?	CO5-K1(2M)
	j		List two application layer protocols.	CO5-K1(2M)
			PART-B **All Questions Carry Equal Marks**	
2.				**10 M**
	A.	i.	Describe the advantages and disadvantages of coaxial cable.	CO1- K2(5M)
		ii.	Illustrate the process of data transmission in the OSI model.	CO1- K2(5M)
			OR	
	B.	i.	Describe all types of network topologies with diagrams and their applications.	CO1- K2(10M)
3.				**10 M**
	A.	i.	Differentiate between Simplex Stop-and-Wait and Simplex for Noisy Channel protocols.	CO2- K2(5M)
		ii	Demonstrate error detection using CRC for an example data word and generator polynomial.	CO2- K3(5M)
			OR	
	B.	i.	Illustrate the working of Selective Repeat ARQ for a scenario with multiple frame losses and recovery.	CO2- K3(10M)
4.				**10 M**
	A.	i.	Describe the working of CSMA/CD	CO3- K2(5M)
		ii.	Explain the main features of Fast Ethernet.	CO3- K2(5M)
			OR	
	B.	i.	Discuss the principles and applications of FDMA, TDMA, and CDMA.	CO3- K2(10M)
5.				**10 M**
	A.	i.	Describe the flooding and hierarchical routing algorithms.	CO4- K2(5M)
		ii.	Use distance vector routing to compute the routing table for a given scenario. 	CO4- K3(5M)

			OR	
	B.	i.	Demonstrate with diagrams the process of subnetting by dividing the IPv4 address range 192.168.0.0/22 into 16 subnets.	CO4- K3(10M)
6.				**10 M**
	A.	i.	Discuss the differences between TCP and UDP.	CO5- K2(5M)
		ii.	Explain the working of HTTP protocol in the World Wide Web.	CO5- K2(5M)
			OR	
	B.	i.	Explain the architecture of web-based email and its security measures.	CO5- K2(10M)
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