U.S.N.										

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

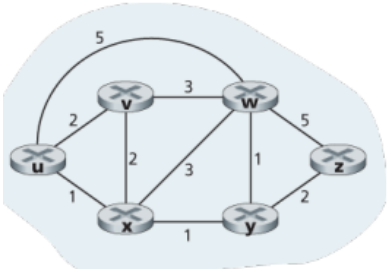
Autonomous Institute Affiliated to VTU

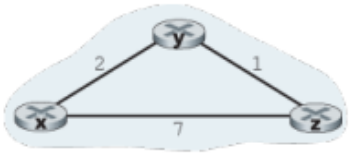
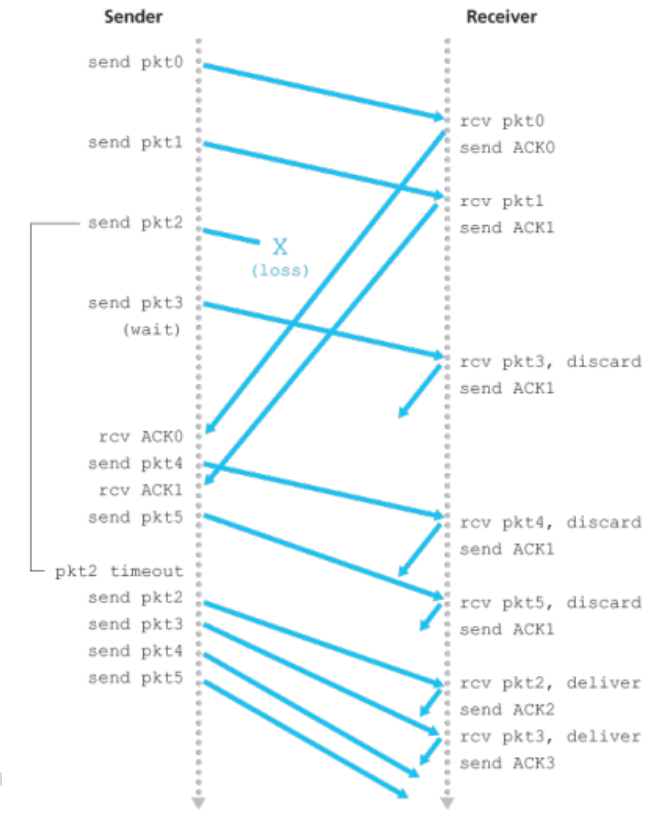
October 2024 Supplementary Examinations

Programme: B.E. **Semester: IV**
Branch: AI&DS/CSE(IoT)/CSE(DS) **Duration: 3 hrs.**
Course Code: 23DS4PCCON / 23IC4PCCNW **Max Marks: 100**
Course: Computer 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.

				CO	PO	Marks
			UNIT – I			
1	a)		Discuss the importance of protocol layering in network architecture. Explain how the OSI and TCP/IP models structure network communication and the main functions of each layer in both models.	CO1	*PO1*	**10**
	b)		Define packet switching and describe how data is transmitted through a packet-switched network. Explain the roles of routers and switches in packet-switched networks.	*CO*1	*PO1*	**10**
			UNIT – II			
2	a)		Illustrate with a neat diagram cyclic redundancy check. Also apply CRC for the following Dataword: 1101011011 Generator: 10011	*CO*2	*PO2*	**10**
	b)		Explain pure Aloha and slotted aloha with a neat diagram	*CO*1	*PO1*	**10**
			OR			
3	a)		Illustrate the working of CSMA/CD with neat diagram. And also show the difference between CSMA/CD and CSMA/CA	*CO* 2	*PO2*	**10**
	b)		Calculate odd parity and even parity for the following data bits: i) 1010 ii) 1101	*CO*3	*PO3*	**10**
			UNIT - III			
4	a)		Explain IPV6 datagram format	*CO* 2	*PO2*	**10**
	b)		Write The Link-State (LS) Routing Algorithm. Apply LS routing for the below given graph 	*CO* 3	*PO3*	**10**

			OR			
	5	a)	Describe the general structure of an ICMP message. Explain the different ICMP error-reporting messages and query messages. Provide examples of each.	***CO*** 1	***PO1***	**10**
		b)	Write an algorithm for Distance vector routing. Apply distance vector routing for the below graph 	***CO*** 3	***PO3***	**10**
			UNIT – IV			
	6	a)	Illustrate the operation of Go Back N protocol for the given diagram. 	***CO*** 3	***PO3***	**10**
		b)	Explain TCP segment structure with a neat diagram showing all the fields	***CO*** 1	***PO1***	**10**
			UNIT – V			
	7	a)	Describe the function of DNS Records? How do they facilitate domain name resolution?	***CO*** 1	***PO1***	**10**
		b)	Explain how SMTP operates when A sends email to B where mail server of A and B are different with a neat diagram. Show the sequence of events.	***CO*** 3	***PO3***	**10**

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