Reg. No.: [redacted]

Name : [redacted]

VIT

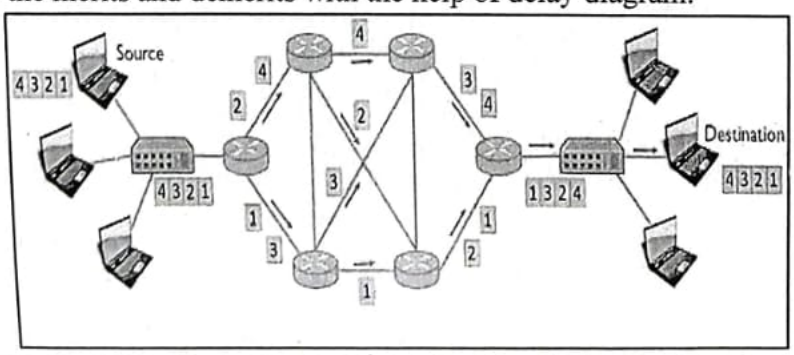
Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

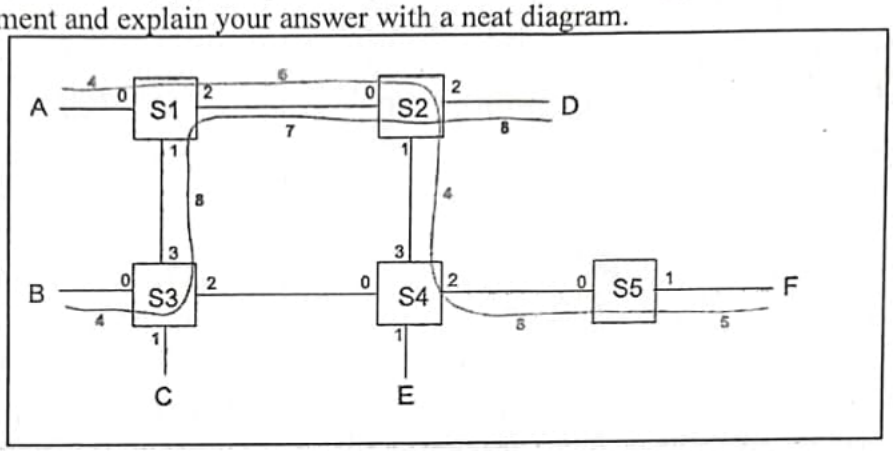
Continuous Assessment Test I – September 2023

Programme	:	**B.Tech. (CSE)**	Semester	:	**Fall'23-24**
Course	:	**Computer Networks**	Code	:	**BCSE308L**
			Slot	:	**C2+TC2**
Faculty	:	**Dr. Deepa Nivetika, Dr. Neelanarayanan V, Dr. Kanchana Devi V**	Class Nbr	:	**CH2023240100901 CH2023240100902 CH2023240101181**
Time	:	**90 Minutes**	Max. Marks	:	**50**

Answer <u>ALL</u> the questions

Q.No.	Sub. Sec.	Questions	Marks
1.		Imagine Amit sends a message to Roshan. The data travels 4 hops from Amit's computer to reach Roshan' s computer. a. How many end devices and how many intermediate devices are required for this data transfer? **[2 Marks]** b. Identify and justify, what are the addresses required by the end devices and intermediate devices? **[2 Marks]** c. Draw the above-said scenario as a diagram along with the required ISO/OSI layers? **[6 Marks]**	10
2.		a. Assume that you are working as a Network Administrator in XYZ Pvt Ltd. Your Manager has asked you to setup a laboratory with capacity of 60 machines. Elaborate all types of LAN topologies and suggest a suitable LAN topology with justification. **[7 Marks]** b. A networking device is designed in such a way that, it forwards the packet out of every valid outgoing link. Identify the networking device and highlight the drawbacks while the network is connected with more number of systems. **[3 Marks]**	10
3.		Identify the switching technique used in the network given below, where data communication takes place. Explore the identified switching technique in detail and also discuss the merits and demerits with the help of delay diagram. 	10

4. Consider the network below. Switch ports are numbered 0,1,2,3. Two paths are drawn in, one from A to F and one from B to D; each link is labeled with its VCI number AF: 4,6,4,8,5 and BD: 4,8,7,8 respectively. Construct the sitching table for these two path establishment and explain your answer with a neat diagram. **10**



5 a. Apply three of the error detection methods except CRC for the given bit sequence 0110011 1101001 1110011 0001100 and discuss the disadvantages of each methods. [Use Even Parity wherever required] **[5 Marks]**

10

b. Solve the following using Cyclic Redundancy Check (CRC) in both sender side and receiver side. Message (M) = 1010001101. Pattern (P) = 110101. [Use Even Parity wherever required] **[5 Marks]**

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