VIT

Vellore Institute of Technology

School of Computer Science Engineering and Information Systems

Fall Semester 2023-2024

Continuous Assessment Test – I

MCA

Course code: PMCA505L **Slot: F2+TF2**

Course Name: Data communication and Networking **Exam Duration: 90 Min.**

Class Number (s): VL2023240106193,6722, 6194 **Maximum Marks: 50**

Faculty Name (s): Prof.Jayalakshmi P, Prof.Thandeeswaran R, Prof.Tamil Priya D

Q.No.	Question	Max Marks
1.	Categorize and identify the network elements for the following types of networks as LAN, MAN, WAN, or interconnection of WAN; i. A company with its headquarters in London has to be connected to its branch office in India, France and North America. ii. A club consisting of two workstations and one printer. iii. A city traffic control system managed by a network of 700 computers iv. A network used by commercial service providers such as Indian Airlines at multiple locations. Elucidate the types of networks in detail.	10
2.	Suppose you want to create a computer network with 10 computers. Briefly describe how you connect the computers using various available topologies with neat diagram. Also, mention the advantages and disadvantages of all the physical topologies.	10
3.	Whether protocols are necessary in networks? If so how are they help full in data travel? Give a detailed analysis with suitable protocols list.	10
4.	i) The period of a signal is 100 ms. What is its frequency in kilohertz? Explicate the periodic analog signals with a sine wave and its parameters in detail.(6 Marks) ii) A nonperiodic composite signal has a bandwidth of 440 kHz, with a middle frequency of 600 kHz and peak amplitude of 100 V. The two extreme frequencies have an amplitude of 20V.Determine	10

	the lowest and the highest frequencies and draw the frequency domain of the signal.(4Marks)	
5.	Ram started to transfer the data to Raghu in the form of signals through the transmission media which are not perfect. What is sent is not what is received. Identify and explicate the concepts that Raghu has identified the causes of impairment for the above scenario.	10