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(An Autonomous Institution)

Code No: 7CC57   **Date: 24-Aug-2024 (FN)**

B.Tech II-Year II- Semester External Examination, Aug - 2024 (Supplementary)
DATA COMMUNICATIONS (CSE and IT)

Time: 3 Hours   **Max.Marks:70**

> **Note:** a) *No additional answer sheets will be provided.*
> b) *All sub-parts of a question must be answered at one place only, otherwise it will not be valued.*
> c) *Missing data can be assumed suitably.*

Bloom's Cognitive Levels of Learning (BCLL)

Remember	L1	Apply	L3	Evaluate	L5
Understand	L2	Analyze	L4	Create	L6

Part - A   Max.Marks:20
ANSWER ALL QUESTIONS

		BCLL	CO(s)	Marks
1	List the various components in a Network.	L1	CO1	[2M]
2	Discuss in brief transmission impairments.	L1	CO2	[2M]
3	What are the functions of Virtual – circuit networks?	L4	CO3	[2M]
4	What exactly error correction refers to and why it is needed?	L2	CO4	[2M]
5	Define bandwidth and how bandwidth is divided among the different nodes.	L1	CO5	[2M]
6	What are the advantages of Frame Relay Networks?	L1	CO6	[2M]
7	Define data rate and signal rate.	L2	CO2	[2M]
8	Compare Guided and Unguided media in data transmission.	L1	CO3	[2M]
9	Draw the hierarchy of hub and list the advantages.	L2	CO6	[2M]
10	What are the services provided by data link layer?	L4	CO4	[2M]

Part – B   Max.Marks:50
ANSWER ANY FIVE QUESTIONS. EACH QUESTION CARRIES 10 MARKS.

			BCLL	CO(s)	Marks
11.	a)	Explain TCP/IP protocol suite.	L2	CO1	[5M]
	b)	Explain different network topologies with neat diagrams.	L3	CO1	[5M]
12.	a)	Write short notes on spread spectrum.	L1	CO2	[5M]
	b)	Write a short note on FDM.	L1	CO2	[5M]
13.	a)	Illustrate on datagram network.	L4	CO3	[5M]
	b)	Explain about virtual switched networks with a neat diagram.	L3	CO3	[5M]
14.	a)	Define Linear Block code. Illustrate simple parity check code with an example.	L4	CO4	[5M]
	b)	Explain in Brief HDLC protocol with neat diagrams.	L6	CO4	[5M]
15.	a)	Write the principle cellular telephone satellite networks.	L2	CO5	[5M]
	b)	Draw and explain the frame format of 802.11.	L3	CO5	[5M]
16.	a)	Discuss in brief Spanning Tree algorithm.	L2	CO6	[5M]
	b)	Explain working of ATM network in brief.	L6	CO6	[5M]

17. a) Define a Network? What are the criteria a network must meet?   L2   CO1   [4M]

     b) Give comparison multiplexing and spreading.   L3   CO2   [3M]

     c) Draw and explain the structure of a switch.   L2   CO3   [3M]

18. a) Differentiate between Go Back and Selective Repeat ARQ.   L4   CO4   [4M]

     b) What is slotted Aloha? Derive expression for Throughput of slotted Aloha.   L6   CO5   [3M]

     c) Describe various types of Backbone networks.   L2   CO6   [3M]

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