

INDIRA UNIVERSITY, PUNE

SCHOOL OF INFORMATION TECHNOLOGY-BSC CYS

Term End Examination (2025 Pattern) April- May – 2026- Semester – II

Course Name: Data Communication
Course Code: 25CYS204T

Max. Marks: 25
Time: 1 Hr. 30 Minutes

Instructions

- Instructions 1- All questions are compulsory.
- Instructions 2- Calculator is not allow.
- Instructions 3- Draw the figures if required.

Q1.	Attempt any 5 out of 7. 1. What is Half Duplex communication? 2. Define a Metropolitan Area Network (MAN). 3. List two Unguided Transmission Media. 4. What is meant by Bit Interval? 5. List the types of communication networks. 6. What is Baseband Transmission? 7. Define Data Representation.	(5 Marks)	CO 1
Q2.	Attempt any 2 out of 4. 1. Contrast in between TCP and UDP protocols. 2. Discuss the any two layers of OSI model. 3. Describe the structure, advantages, and disadvantages of Mesh Topology and Bus Topology. 4. Compare the ARP (Address Resolution Protocol) and RARP (Reverse Address Resolution Protocol).	(10 Marks)	CO2
Q.3	Attempt all questions (5 marks each) a) Demonstrate any two framing techniques with example. b) Construct the following IPv4 addresses from binary notation to dotted-decimal notation and identify the Class. I. 10000001 00001011 00001011 11101111 II. 11000001 10000011 00011011 11111111 OR	(10 Marks)	CO3

Q.3	Attempt all questions (5 marks each) (10 Marks) a) Apply the concept of subnet masking to divide a network into smaller subnets and explain its role in identifying network and host portions of an IP address. b) Solve the following if received data is 1100010 using Even parity of Hamming code: - Recalculate parity bits - Identify whether an error exists - Compute the syndrome - Correct the error - Retrieved the original data	
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