K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

Supplementary Jan/Feb ~~Nov – Dec~~ 2025
Program: B. Tech Scheme: III
Regular Examination TY Semester: V
Course Code: EXC503 and Course Name: Computer Communication Networks
Date of Exam: 30/01/26 Duration: 02.5 Hours Max. Marks: 60

Instructions:
(1)All questions are compulsory.
(2)Draw neat diagrams wherever applicable.
(3)Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any **two** questions out of three: (05 marks each)	10		
a)	Explain the concept of protocol and standard in networking		1	U
b)	Discuss various transmission impairments that occur in data communication. How can these be minimized or controlled?		2	U
c)	Explain error control in the data link layer with an example.		3	An
Q 2	Solve any **two** questions out of three: (05 marks each)	10		
a)	Write the structure of an IPv4 datagram and explain any three fields.		4	An
b)	Explain the concept of flow control and congestion control in the Transport Layer.		5	U
c)	Explain the role of TELNET and SSH in remote login. Compare their security features.		6	U
Q.3	Solve any **two** questions out of three. (10 marks each)	20		
a)	Explain TCP/IP protocol suite and compare with OSI model		1	U
b)	Differentiate among Coaxial cable, Optical fiber, and Twisted pair in terms of construction, bandwidth, and application		2	U
c)	Explain the working of RIP, OSPF, and BGP routing protocols.		4	An
Q.4	Solve any **two** questions out of three. (10 marks each)	20		

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a)	Explain ALOHA, Slotted ALOHA, CSMA, and CSMA/CD protocols with diagrams and performance comparison.		3	An
b)	Describe Link State and Distance Vector routing algorithms with examples.		4	An
c)	Discuss the working of connection-oriented and connectionless transport protocols in TCP/IP architecture. Explain how reliability is achieved in TCP		5	U

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