Course code: Course Title	Course Structure			Pre-Requisite
	L	T	P	
SE305: Computer Networks	3	0	2	Operating systems, Algorithm Design and Analysis

Course Objective: To introduce the layered concept of Computer network and protocols associated with TCP/IP.

S. NO	Course Outcomes (CO)
CO1	Understand and analyze the classification of network services, protocols, architectures and internet applications.
CO2	Learn basic concepts of MAC protocols and their protocols.
CO3	Design and analysis of the routing protocols.
CO4	Demonstrate the connection oriented and connection less protocols.
CO5	Investigate various design issues in Application layer.

S. NO	Contents	Contact Hours
UNIT 1	**Introduction Concepts:** Goals and Applications of Networks, Network structure and architecture, The OSI reference model, services, Network Topology Design - Delay Analysis, Physical Layer Transmission Media, Switching methods, ISDN.	8
UNIT 2	**Medium Access sub layer:** Medium Access sub layer – Channel Allocations, LAN protocols - ALOHA protocols - Overview of IEEE standards - FDDI. Data Link Layer - Elementary Data Link Protocols, Sliding Window protocols, Error Handling.	8
UNIT 3	**Network Layer:** Network Layer - Point - to Pont Networks, routing, Congestion control, Internetworking -TCP / IP, IP packet, IP address, IPv6.	8
UNIT 4	**Transport Layer:** Transport Layer - Design issues, connection management, session Layer-Design issues, remote procedure call.	6
UNIT 5	**Presentation Layer:** Data compression techniques, cryptography.	6
UNIT 6	**Application Layer:** Application Layer: File Transfer, Access and Management, Electronic mail, Virtual Terminals, Internet and Public Networks.	6
	TOTAL	42

REFERENCES

S.No.	Name of Books/Authors/Publishers	Year of Publication / Reprint
1	Andrew S. Tanenbaum, "Computer Networks", Prentice Hall, 3rd Edition.	2013
2	Uyless Black, "Computer Networks-Protocols, Standards and Interfaces", Prentice Hall India Learning Private Limited, 2nd Edition.	1996
3	Laura Chappell, "Introduction to Cisco Router Configuration", Cisco Press.	1998
4	Stallings William, "Data and Computer Communications", Pearson Education, 10th Edition.	2017

5	William A. Shay, "Understanding Data Communications & Networks", Thomson-Brooks/Cole - Vikas publishing House, 2nd Edition.	**1999**
6	Michael A. Miller, "Data & Network Communication", Delmar Cengage Learning, 1st Edition.	**1999**