MSC (CA&IT) - Semester: IV

(Effective from year 2024-25)

Course Code:	CAIT-404	Course Title:	Computer Network – I
Course Credits:	04	Hour of Teaching/Week:	04
Internal Assessment Marks:	50	External Exam Marks:	50
Exam Duration	2 Hrs		

Unit	Contents
1	Basics of Computer Networking, Basic terminologies of Computer Networks, Types of Enterprise Computer Network : LAN, WAN, Cloud Networks, Types of Computer Network Architecture : Client – Server Architecture, Peer – to – Peer Architecture, Network Devices : Repeater, Hub, Bridge, Switch, Router, Gateway, Brouter, NIC.
2.	Network Topology: Point-to-Point, Mesh, Star, Bus, Ring, Tree, Hybrid, Advantages and disadvantages of all the topology and their comparision. OSI Model : Introduction to all seven layers and their functionality.
3.	Physical Layer in OSI Model: Introduction, functions, topologies, Line configuration, Modes of transmission: Simplex, half duplex, Full Duplex. Physical layes protocols. Data Link Layer in OSI Model: Introduction, functions: Framing, addressing, flow control, access control – CSMA/CD, CSMA/CA, Protocols of data link layer: SDLC, HDLC
4.	Network Layer: Features of Network Layer, Services by network layer: Packetizing, Routing, Forwarding, Difference between routing and forwarding, Error control, Flow control, Congestion Control. Advantages and disadvantages of Network Layer. Introduction to CISCO Packet Tracer.
References	
1. Computer Networks 4th Edition - Andrew Tanenbaum	
2. Computer Networking: A Top-Down Approach Featuring the Internet By James F.Kurose , Keith W.Ross	
3. Data Communication & Networking 4th Edition By Behrouz A.Forouzan	