

The Maharaja Sayajirao University of Baroda Polytechnic Higher Payment Program Diploma in Computer Engineering			ACADEMIC YEAR 2021-2022		
Year	II	COMPUTER NETWORKS (CSE3426)	Lecture Hrs per week	4	
Semester	II		Max marks	100	
Pre-requisite: Basics of data structure and operating system.					
CO1	Explain the uses of computer networks, network hardware, software, topologies, and reference models.				
CO2	Explain various LAN components, transmission media, connectors, network operating systems and interconnection devices to establish network communication.				
CO3	Describe network applications and management concepts such as DNS, remote logging, email, file transfer, and Internet services.				
CO4	Discuss the functioning of physical and data link layer mechanisms, including signaling, cabling, error detection/correction and data link protocols.				
CO5	Define media access protocols, LAN standards, network devices, routing techniques, congestion control.				
BT	1. Remember 2. Understand 3. Application 4. Analysis 5. Evaluation 6. Creation				
COURSE CONTENT/SYLLABUS					
Unit	Unit Name		Hrs	Weightage	CO
Unit-1	Overview Of Computer Network Uses Of Computer Networks, Network Hardware, Network Topologies, Network Software Reference Models, Data Communication Services, Networks		10	18	CO1
Unit-2	LAN Components and Interconnection Devices Transmission Media, Wireless Transmission, Connectors, Network Operating System, Network Interface Card, Servers, Communication Equipment, Interconnection Devices, Network Connecting Devices,		08	14	CO2
Unit-3	Network Application and Management: Domain Name System, Remote Logging, Electronic Mail, File Transfer, The Internet, Internet Services, Network Management System		08	14	CO3
Unit-4	Physical Layer: Types Of Signal, Types Of Medium, Fundamentals Of Cable, Internet Over Cable, ADSL. Data Link Layer: Design Issues, Error Detection & Correction Technique with examples, Data Link Protocols		10	18	CO4
Unit-5	The Media Access Control Sublayer: channelization, ALOHA, CSMA, TDMA, FDMA, WDMA, Ethernet, IEEE Standards of LAN's, Bluetooth, Bridges, Routers, Hubs, Switches, Gateway. The Network Layer: Design Issues, Routing, Congestion: Prevention Techniques, Quality of Service, IP Protocol		12	22	CO3, CO5
Unit-6	The Transport Layer: Transport Service, Addressing, Connection Establishment, TCP, Service Model, Protocol, Segment Header, UDP. The Application Layer: DNS (The Domain Name System), Electronic Mail, The World Wide Web: HTTP, Multimedia.		08	14	CO5
			56	100	
REFERENCE BOOKS:					
1.	Computer Networks by Andrew S. Tanenbaum, PHI				
2.	Computer Networking with Internet Protocols and Technology by William Stalling				
3.	Data Communication and Networking by Behrouz .A. Forouzan.				