



GANAPATI INSTITUTE OF ENGINEERING AND TECHNOLOGY(POLYTECHNIC)
Mathasahi , Jagatpur , Cuttack - 754200

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
LESSON PLAN

Session (2025-2026)(S)

Discipline: Computer Science & Engineering	Semester: 4 th , Summer/2025	Name of the Teaching Faculty: Mr. Smruti Ranjan Pattnaik
Subject: COMPUTER NETWORKS Theory-03	No. Of Days/Week: 03	Start Date: 22.12.2025 End Date: 18.04.2025

Week	Class Day	Theory Topics
1st	1st	Unit-1: Introduction Introduction to Computer Networks Goals of Computer Networks, Area of networks.
	2nd	Networks Models , Types of Networks,
	3rd	Protocols and its types ,OSI Reference Model,
2nd	1st	Seven Layer of architecture in OSI model
	2nd	TCP/IP Model, Internet Protocol
	3rd	Four Layer of TCP/IP suite.
3rd	1st	Unit-2: Physical Layer Transmission Media - Principles and issues
	2nd	Guided and Unguided Media and its types.
	3rd	Wired Media – Coaxial Cable, Fiber Optic cable
4th	1st	Twisted Pair wire cable, UTP, STP, Wireless Media
	2nd	Data Transmission mode and its types HF, VHF, UHF, Microwave ,ku Band ,WIFI 802.11 a/b/g/n/ac
	3rd	Network Topology and its types
5th	1st	Bus , Ring, Star, Mesh ,Tree, Hybrid Topology with suitable diagram
	2nd	Unit-3: Data Link Layer Design issue
	3rd	DLL protocols , Ethernet
6th	1st	WLAN, Bluetooth(Piconet, Scatternet)
	2nd	Switching Techniques, VLAN
	3rd	Unit-4: Network Layer Design issues
7th	1st	Internet Protocols (IPv4 & IPv6) Routing – Principles

8th	3rd	Routing Protocols: RIP, OSPF
	1st	Unit-5: Transport Layer Design issues, UDP & TCP
9th	2nd	Key difference between udp and tcp
	1st	Unit-6: Application Layer: Design Issues DNS, DHCP
	2nd	FTP, TFTP, SMTP, HTTP How it will works.
10th	3rd	Telnet, its function, security
	1st	SSH, Connection, Security, DNS Concepts
	2nd	Unit-7: NETWORK DEVICES: Network Devices and the functions.
11th	3rd	Discuss various Network Devices Hub and its types., Router, Repeater
	1st	Gateway, Nic, Brouter, Firewall and its functions
	2nd	Client server model, Peer-Peer model
12th	3rd	Wireless Lan Architecture, Ethernet, CSMA/CD
	1st	X.25 and its works, Frame relay.
	2nd	Congestion, Effects of Congestion.
13th	3rd	Traffic Management, Medium Access Control
	1st	Lan Protocol Architecture.
	2nd	FDM AND TDM, Statistical TDM
14th	3rd	Quiz Test
	1st	Error Detection, Line Configuration
	2nd	Error Control, Flow Control
15th	3rd	Revision
	1st	Discussion of Previous Questions and Answers
	2nd	Discussion of Previous Questions and Answers
	3rd	Discussion of Previous Questions and Answers

Sign of faculty *S.R. Pathan*
22.12.25

Sign of Computer Science & Engg. *S.R. Pathan*
22.12.25

Sign of Principal *[Signature]*
22/12/25