PNS School of Engg. & Tech, Marshaghai, Kendrapara
LESSON PLAN
Session (2025-2026)

Discipline:	Semester: 4th	Name of the faculty: Biswaranjan Swain
Subject: Computer Networks (Th-3)	**No. of Days/week: 05**	**Start Date:** 22/12/2025 **End Date:** 18/04/2026

Week	Class Day	Theory Topics
1st	1st	**1.Introduction to Computer Networks and Network Models:** Introduction, Data Communication
	2nd	Components of Data communication, Data representation
	3rd	Data Flow
	4th	Networks: Network criteria, Physical topology
	5th	Types of Network
2nd	1st	Protocols and standards, Standards organisation
	2nd	Network Models
	3rd	OSI Model: Physical Layer
	4th	Datalink Layer
	5th	Network Layer
3rd	1st	Transport Layer
	2nd	Session Layer, Presentation Layer
	3rd	Application Layer
	4th	TCP/IP model
	5th	TCP/IP Model
4th	1st	Chapter Review
	2nd	**2.Transmission Media, Topologies, and Data Link Layer:** Transmission media: Principles, issues and examples
	3rd	Wired Media: Cpaxial, UTP
	4th	STP, Fibre Optics Cable
	5th	Wireless Media: HF, VHF, UHF
5th	1st	Microwave, ku band
	2nd	Network Topologies
	3rd	Datalink layer: design issues
	4th	Example protocols: Ethernet, Wireless LAN
	5th	Bluetooth
	1st	Switching Techniques: Circuit switching

6th	2nd	Message switching
	3rd	Packet switching
	4th	Chapter Review
	5th	**3. Network Layer and Routing Protocols:** Network layer: Design issues
7th	1st	Logical Addressing
	2nd	Classful addressing
	3rd	Example protocols: IPv4
	4th	IPv4
	5th	Routing: Principles and issues
8th	1st	Types of routing table
	2nd	Algorithms: Distance-vector routing
	3rd	Link-state routing
	4th	Protocols: RIP
	5th	OSPF
9th	1st	Chapter Review
	2nd	**4.Transport and Application Layer Protocols:** Transport Layer -
	3rd	Connectionless vs connection oriented service
	4th	Reliable vs unreliable service
	5th	Client-server paradigm, socket address
10th	1st	Protocols: UDP
	2nd	TCP : TCP services
	3rd	Segment in TCP
	4th	TCP connection
	5th	SCTP
11th	1st	Application Layer Protocol: DNS
	2nd	SMTP
	3rd	**5.Network Devices and Management Systems:** Functioning of
	4th	NIC, Hub
	5th	Switch, Router
12th	1st	Wi-fi devices
	2nd	Network Management System: Configuration Management
	3rd	Fault Management, Performance Management
	4th	Security Management, Accounting Management
	5th	SNMP