Government Polytechnic Dhangar
Fatehabad

Lesson Plan

Name of the Faculty: **Rakesh Kumar, Lecturer**
Department: **Computer Engineering**
Semester: **5th**
Subject: **Computer Networks**
Lesson Plan Duration: 15 weeks (from 15 Sept 2022 to 16 Jan 2023)
****Work load (Lecture / Practical) per week (in hours): Lectures-03, practical -03**

Week	Theory		Practical
	Lect. day	Topic(Including assignment / test)	Practical Topic
1st	1st	**1.NetworksBasics:** Concept of network Models of network computing	• Recognize the physical topology of a network • Recognize the cabling (coaxial, OFC, UTP, STP) of a network • Practical Note Book Check
	2nd	Network Models Peer-to –peer Network Server Client Network	
	3rd	Network Services, topologies, Revision and Note Book Check	
2nd	1st	Concept of switching, Switching Techniques	• Recognition and use of various types of • connectors RJ-45, RJ-11 • Recognition and use of various typesof connectors BNC and SCST
	2nd	OSI Reference Model	
	3rd	Function of various layers in OSI Reference Model, Revision and Note Book Check	
3rd	1st	TCP/IP model	• Recognition of network devices likeSwitches, Hub of access points for Wi-Fi • Recognition of network devices like Routersof access points for Wi-Fi
	2nd	Function of various layers in TCP/IP Reference Model	
	3rd	Comparison between OSI and TCP/IP model , Revision and Note Book Check	
4th	1st	Concept of logical and physical addressing	• Practical Note Book Check • Making of cross cable • Making of straight cable
	2nd	IPV4 addressers- Address space, Notations	
	3rd	Classful Addressing, Classless Addressing, Network Address Translation	
5th	1st	Different classes of IP addressing ,special IP address	• Install a network interface card ina workstation. • Configure a network interface card ina workstation.
	2nd	Sub netting	
	3rd	super netting, Loop back concept ,Revision and Note Book Check	
6th	1st	IPV4 packet Format	• Identify the IP address of a workstation andthe class of the address • Configure the IP Address on a workstation
	2nd	IPV6 packet Format	
	3rd	Ethernet Specification	

7th	1st	Ethernet Standardization	• Practical Note Book Check • Managing user accounts in windows
	2nd	10 Mbps (Traditional Ethernet)	
	3rd	10 Mbps (Fast Ethernet), 1000 Mbps (Gigabit Ethernet)	
8th	1st	Network connectivity Devices	• Managing user accounts in LINUX
	2nd	NICs , Revision and Note Book Check	
	3rd	Repeaters, switches	
9th	1st	Hubs, switch	• Sharing of Hardware resources in the network.
	2nd	Modems, Routers	
	3rd	Gateways, Revision and Note Book Check	
10th	1st	Configuration of routers and gateways	• Use of Netstat • Use of Netstat and its options.
	2nd	Network Security Principles,	
	3rd	Cryptography, using secure protocols	
11th	1st	Revision and Note Book Check	• Revision • Connectivity troubleshooting using PING
	2nd	Introduction to Network Trouble Shooting Techniques	
	3rd	Trouble Shooting process	
12th	1st	Trouble Shooting Tools: PING	• Connectivity troubleshooting using IPCONFIG • Connectivity troubleshooting using IFCONFIG
	2nd	IPCONFIG, IFCONFIG, NETSTAT	
	3rd	TRACEROOT, Wireshark , Revision and Note Book Check	
13th	1st	Nmap, TCPDUMP, ROUTEPRINT	• Revision • Installation of Network Operating System(NOS)
	2nd	DHCP Server	
	3rd	Workgroup Networking	
14th	1st	Domain Networking	• Installation of Network Operating System(NOS)
	2nd	Introduction to WLAN	
	3rd	802.11- Architecture, Revision and Note Book Check	
15th	1st	WiMax, Li-Fi	• Visit to nearby industry for latest networking techniques • Revision
	2nd	Wireless security	
	3rd	Bluetooth- Architecture and comparison with Wifi	