

NAME OF THE FACULTY : POOJA
DISCIPLINE : Computer Engineering
SEMESTER : 5th
SUBJECT : Computer Networks
LESSON PLAN DURATION : 15 weeks (from Sept 2022_Jan 2023)

WORK LOAD (LECTURE/PRACTICAL) PER WEEK (IN HOURS):- LECTURE-04, PRACTIACL-03 PER GROUP

WEEK S.N.	THEORY		PRACTICAL	
	Lecture / Hrs	TOPIC (Including Assignment/Test)	Practical / Hrs	Experiment
1 st	1	Introduction Networks Basics	Group-1	Recognize the physical topology and cabling (coaxial, OFC, UTP, STP) of a network.
	2	Concept of network		
	3	Models of network computing		
	4	Networking models	Group-2	Recognize the physical topology and cabling (coaxial, OFC, UTP, STP) of a network.
2 nd	5	Peer-to –peer Network	Group-1	Recognition and use of various types of connectors RJ-45, RJ-11,BNC and SCST
	6	Client-Server Network		
	7	LAN, MAN and WAN		
	8	Network Services	Group-2	Recognition and use of various types of connectors RJ-45, RJ-11,BNC and SCST
3 rd	9	Topologies	Group-1	Making of cross cable and straight cable
	10	Switching Techniques		
	11	Networking Models		
	12	OSI model: Definition, Layered Architecture	Group-2	Making of cross cable and straight cable
4 th	13	Functions of various layers	Group-1	Install and configure a network Interface card in a workstation.
	14	TCP/IP Model: Definition		
	15	Functions of various layers Comparison between OSI and TCP/IP model		
	16	Introduction to TCP/IP Addressing	Group-2	Install and configure a network interface card in a workstation.
5 th	17	Concept of physical and logical addressing	Group-1	Identify the IP address of a workstation and the class of the address and configure the IP Address on a workstation
	18	IPV4 addresses – Address space, Notations		
	19	Assignment-1		
	20	Sessional Test-1	Group-2	Identify the IP address of a workstation and the class of the address and configure the IP Address on a workstation

6 th	21	Classful Addressing- Different IP address classes	Group-1	1	Managing user accounts in windows and LINUX
	22	Classes & Blocks, Net-id & Host-Id, Masks, Address depletion		2	
				3	
	23	Classless Addressing – Address blocks, Masks	Group-2	1	Managing user accounts in windows and LINUX
24	Special IP Addresses Subnetting and Supernetting	2			
		3			
7 th	25	Loop back concept	Group-1	1	Sharing of Hardware resources in the network.
	26	Network Address Translation		2	
				3	
	27	IPV4 Header, IPV6 Header	Group-2	1	Sharing of Hardware resources in the network.
28	Comparison between IPV4 and IPV6	2			
		3			
8 th	29	Comparison between IPV4 and IPV6	Group-1	1	Use of Netstat and its options.
	30	Network Architecture- Ethernet specification and standardization		2	
				3	
	31	10 Mbps (Traditional Ethernet), 10 Mbps(Fast Ethernet)	Group-2	1	Use of Netstat and its options.
32	1000 Mbps (Gigabit Ethernet)	2			
		3			
9 th	33	Network Connectivity	Group-1	1	Connectivity troubleshooting using PING, IPCONFIG, IFCONFIG
	34	Network connectivity Devices NICs		2	
				3	
	35	Hubs, Switches, Routers, Repeaters	Group-2	1	Connectivity troubleshooting using PING, IPCONFIG, IFCONFIG
36	Modem, Gateway Configuration of Routers & Switches	2			
		3			
10 th	37	Network Administration- Network Security Principles	Group-1	1	Connectivity troubleshooting using PING, IPCONFIG, IFCONFIG
	38	Cryptography, using secure protocols		2	
				3	
	39	Assignment-2	Group-2	1	Connectivity troubleshooting using PING, IPCONFIG, IFCONFIG
40	Sessional Test-2	2			
		3			

11 th	41	Trouble Shooting Tools: PING,IPCONFIG	Group-1	1	Installation of Network Operating System(NOS)
	42	IFCONFIG, NETSTAT, TRACEROOT		2	
				3	
	43	Wireshark, Nmap, TCPDUMP	Group-2	1	Installation of Network Operating System(NOS)
44	ROUTEPRINT DHCP Server	2			
		3			
12 th	45	Workgroup/Domain Networking	Group-1	1	Installation of Network Operating System(NOS)
	46	Introduction to Wireless Networks		2	
				3	
	47	Introduction to wireless LAN IEEE 802.11	Group-2	1	Installation of Network Operating System(NOS)
48	WiMax ad Li-Fi Wireless Security	2			
3		3			
13 th	49	Introduction to bluetooth - architecture, application	Group-1	1	Visit to nearby industry for latest networking techniques
	50	Comparison between bluetooth and Wifi		2	
				3	
	51	Introduction to Cloud Computing	Group-2	1	Visit to nearby industry for latest networking techniques
52	Definition of Cloud Computing	2			
3		3			
14 th	53	Advantages of Cloud Computing	Group-1	1	Create a network of at least 6 computers.
	54	Cloud Computing service model- SaaS		2	
				3	
	55	Cloud Computing service model- PaaS	Group-2	1	Create a network of at least 6 computers.
56	Cloud Computing service model- IaaS	2			
		3			
15 th	57	Recap- Cloud Computing	Group-1	1	Practicing and Recap
	58	Assignment- 3		2	
				3	
	59	Sessional Test- 3	Group-2	1	Practicing and Recap
60	Revision	2			
		3			