Department of Information Technology

LESSON PLAN

Subject: Computer Networks **Subject code: OE-IT-T303A**

Session: 2022-23 **Semester: VI**

SNo	Topic	No. of Lectures required	CO Covered	Teaching Methodology
1	**Unit-1** Introduction: Basics of Computer Networks	1	CO1	
2	Need and Evolution of computer networks	1		
3	Description of LAN, MAN, WAN & wireless networks.	1		
4	Basics terminology of Computer Networks: Bandwidth,	1		
5	Physical and logical topologies media 10 base 2, 10base 5, 10base-T, 100 base FX, 100base LX.	1		
6	LAN & WAN devices Repeaters, Hubs, Switches, Bridges, Router, Gateway	1		
7	OSI Reference Model: Laying architecture of networks,	1		
8	OSI model Functions of each layer Services and Protocols of each Layer.	1		
9	**Unit 2** TCP/IP: Introduction History of TCP/IP	1	CO2	
10	Layers of TCP/IP, Protocols, Internet Protocol	1		
11	Transmission control protocol	1		
12	User Datagram Protocol, Internet control Protocols	1		
13	ARP, RARP,DHCP, ICMP, application layer	1		
14	Domain Name System, Email-SMTP, POP, IMAP, FTP, HTTP, SNMP,TELNET, overview of IP version 6.	2		
15	OSI and TCP/IP model with description of data encapsulation	2		
16	Peer to peer communication	1		
17	Comparison of OSI and TCP/IP model.	1		
18	**Unit 3** Physical Layer: Concept of Analog & Digital Signal	2	CO3	
19	Bandwidth, transmission impairments: attenuation, distortion, noise	1		
20	Different types of media-twisted pair, unshielded twisted pair	1		
21	Coaxial cable, optical Fiber cable and wireless.	1		

	Data Link Layer: LLC and MAC sub layer, framing error control and flow control			
22	Error detection & correction- CRC, block codes parity and checksum	1		
23	Elementary data link protocol, sliding window protocol Channel allocation problem-static and dynamic, Multiple Access protocol- ALOHA, CSMA/CA Token bus, Token ring, FDDI.	2		
24	**Unit 4** Network Layer: Internet address: IP addressed Classes	1	CO4	
25	Subnetting – Sub-network, Subnet Mask, Routing techniques	1		
26	Static vs. Dynamic routing, routing table	1		
27	Routing algorithms: optimality principle, shortest path algorithm	2		
28	Distance vector routing, link state routing, hierarchical routing	2		
29	Broadcast routing, Multicast routing, Routing for mobile host.	2		
30	Transport Layer: Process to process delivery; TCP & UDP, Three way handshaking	2		
31	.ATM AAL layer protocol.	1		