GOVT. POLYTECHNIC, HAMIRPUR (H.P.)
Lesson Planning and Coverage

Branch: Computer Engineering

Subject: Advanced Computer Networks

Teacher: Ritesh Avasthi

Semester: 4th

Session: Feb -June 2023

Laboratory: Yes

Sr. No.	No of Lectures	Chapter/Unit Description	Detailed contents	Reference Resources	Remarks
1	14	UNIT 1	Review of Networking Basics; Advance Topics in IPv4 – Subnetting, Multicasting, Multicast Routing Protocols (IGMP, PIM, DVMRP); Advance Topics in TCP – flow management, congestion avoidance, protocol spoofing; Ipv6	R1,R2	
2	14	UNIT 2	Telecom Networks, Switching Techniques; Introduction to Frame Relay, ATM, MPLS; VSAT Communication – Star and Mesh architectures, bandwidth reservation; Wireless Networks – WiFi, WiMax, Cellular Phone Technologies – GSM, CDMA, 3G, 4G	R2	
3	12	UNIT 3	Network Redundancy, Load Balancers, Caching, Storage Networks; QoS; Network Monitoring – SNMP, RMON;	R3	
4	12	UNIT 4	Introduction to Network Security – VLAN, VPN, Firewall, IPS, Proxy Servers	R3,R4	
5	12	UNIT 5	Network Simulation, Network design case studies and exercises, IP Addressing schema, Protocol Analysers (Wireshark, etc)	R4	

References:

R1. RFCs and Standards Documents (www.ietf.org and other standard body websites)

R2. Data Communications and Networking by Behrouz A. Forouzan, TMH.

R3. https://nptel.ac.in

R4. https://www.w3schools.com -

COURSE OUTCOMES:

After completing this course students will be able to:

CO-1   Understand sub netting and routing protocols.

CO-2   Explain various switching techniques and understand wireless networks.

CO-3   Understand network redundancy and various network security issues.

CO-4   Simulate and study a network

27/01/2024

Signature of Teacher with Date

Signature of HOD