Lovely Professional University, Punjab

Course Code	Course Title	Course Planner
CSE307	INTERNETWORKING ESSENTIALS	23625::Gagandeep Kaur

Course Outcomes :Through this course students should be able to

CO1 :: describe internetworking devices and associated protocols

CO2 :: discuss the working of various cabling standards for internetworking

CO3 :: classify the networks and the associated protocols

CO4 :: analyze the practical utilization of networking standards and protocols in relevant scenarios

CO5 :: evaluate the working of classfull and classless addressing scheme

CO6 :: simulate end to end connectivity using network utilities in a simulation environment

	TextBooks (T)		
Sr No	**Title**	**Author**	**Publisher Name**
T-1	COMPUTER NETWORKS	ANDREW S. TANENBAUM	PEARSON

	Reference Books (R)		
Sr No	**Title**	**Author**	**Publisher Name**
R-1	DATA COMMUNICATION AND NETWORKING	BEHROUZ A. FOROUZAN	MCGRAW HILL EDUCATION

Relevant Websites (RW)		
Sr No	**(Web address) (only if relevant to the course)**	**Salient Features**
RW-1	https://www.packettracernetwork.com/labs/packettracerlabs.html	Packet Tracer Tutorial
RW-2	https://www.itschool.gov.in/PDF/SITC%20hardware%20training/ETHERNET%20CABLE.pdf	Straight and Cross Cable

Detailed Plan For Practicals

An instruction plan is only a tentative plan. The teacher may make some changes in his/her teaching plan. The students are advised to use syllabus for preparation of all examinations. The students are expected to keep themselves updated on the contemporary issues related to the course. Upto 20% of the questions in any examination/Academic tasks can be asked from such issues even if not explicitly mentioned in the instruction plan.

Practical No	Broad topic	Subtopic	Other Readings	Learning Outcomes
Practical 1	Network hardware and IP addressing concept	Working of hub, switch and Router, Adding of interfaces in devices		Knowledge about various network hardware
Practical 2	Network hardware and IP addressing concept	IP addressing basics, configuration using CLI, VLSM and FLSM on single router		Knowledge of cabling, Knowledge about IP addressing, P3: Practical evaluation 1 in 3rd week from topic covered between week 1 and 2
	Network hardware and IP addressing concept	Cabling - Creation of straight and Cross cable using crimping tool	RW-2	Knowledge of cabling, Knowledge about IP addressing, P3: Practical evaluation 1 in 3rd week from topic covered between week 1 and 2
Practical 3	Network hardware and IP addressing concept	Cabling - Creation of straight and Cross cable using crimping tool	RW-2	Knowledge of cabling, Knowledge about IP addressing, P3: Practical evaluation 1 in 3rd week from topic covered between week 1 and 2
	Network hardware and IP addressing concept	IP addressing basics, configuration using CLI, VLSM and FLSM on single router		Knowledge of cabling, Knowledge about IP addressing, P3: Practical evaluation 1 in 3rd week from topic covered between week 1 and 2
Practical 4	Network hardware and IP addressing concept	Implementation of Star, Mesh, Bus and Hybrid Topology		Knowledge of various network topology
Practical 5	Network Commands	Ping, tracert, arp, netstat, ipconfig, ftp, nslookup, snmpget, snmpgetbulk and snmpset (use DOS and scenario based configuration)	RW-1	Knowledge of various network troubleshooting commands, Implementation of Static Routing, P6: Practical evaluation 2 in 6th week from topic covered between week 4 and 5
	Network layer routing protocols	Implementation of Static Routing using Classfull and classless (FLSM)		Knowledge of various network troubleshooting commands, Implementation of Static Routing, P6: Practical evaluation 2 in 6th week from topic covered between week 4 and 5
Practical 6	Network layer routing protocols	Implementation of Static Routing using Classfull and classless (FLSM)		Knowledge of various network troubleshooting commands, Implementation of Static Routing, P6: Practical evaluation 2 in 6th week from topic covered between week 4 and 5
	Network Commands	Ping, tracert, arp, netstat, ipconfig, ftp, nslookup, snmpget, snmpgetbulk and snmpset (use DOS and scenario based configuration)	RW-1	Knowledge of various network troubleshooting commands, Implementation of Static Routing, P6: Practical evaluation 2 in 6th week from topic covered between week 4 and 5
Practical 7	Network layer routing protocols	Implementation of Static Routing using VLSM		Knowledge of static routing
Practical 8	Network layer routing protocols	Routing information Protocol(RIP) using classfull and classless (FLSM)		Knowledge of dynamic routing, P9: Practical evaluation 3 in 9th week from topic covered between week 7 and 8
	Network layer routing protocols	Routing information rotocol(RIP) using VLSM		Knowledge of dynamic routing, P9: Practical evaluation 3 in 9th week from topic covered between week 7 and 8

Practical 9	Network layer routing protocols	Routing information rotocol(RIP) using VLSM		Knowledge of dynamic routing, P9: Practical evaluation 3 in 9th week from topic covered between week 7 and 8
	Network layer routing protocols	Routing information Protocol(RIP) using classfull and classless (FLSM)		Knowledge of dynamic routing, P9: Practical evaluation 3 in 9th week from topic covered between week 7 and 8
Practical 10	Server Configuration and LAN Setup	Implementation of FTP, Implementation of HTTP and Email setup on server		Knowledge implementing application layer protocols
Practical 11	Server Configuration and LAN Setup	Implementation of DNS, Implementation of DHCP		Knowledge implementing application layer protocols, P12: Practical evaluation 4 in 12th week from topic covered between week 10 and 11
	Server Configuration and LAN Setup	Implementation of LAN with configuration of inter-networking devices and any application layer protocol		Knowledge implementing application layer protocols, P12: Practical evaluation 4 in 12th week from topic covered between week 10 and 11
Practical 12	Server Configuration and LAN Setup	Implementation of LAN with configuration of inter-networking devices and any application layer protocol		Knowledge implementing application layer protocols, P12: Practical evaluation 4 in 12th week from topic covered between week 10 and 11
	Server Configuration and LAN Setup	Implementation of DNS, Implementation of DHCP		Knowledge implementing application layer protocols, P12: Practical evaluation 4 in 12th week from topic covered between week 10 and 11
Practical 13	IPv6 addressing and routing	IPv6 Addressing & Stateless Address Auto Configuration (SLAAC)		Knowledge about IPV6 addressing and routing
	IPv6 addressing and routing	IPv6 Neighbor Discovery		Knowledge about IPV6 addressing and routing
	IPv6 addressing and routing	IPv6 Dynamic Routing		Knowledge about IPV6 addressing and routing
	IPv6 addressing and routing	IPv6 Static Routing		Knowledge about IPV6 addressing and routing
Practical 14	IPv6 addressing and routing	IPv6 Static Routing		Knowledge about IPV6 addressing and routing
	IPv6 addressing and routing	IPv6 Dynamic Routing		Knowledge about IPV6 addressing and routing
	IPv6 addressing and routing	IPv6 Neighbor Discovery		Knowledge about IPV6 addressing and routing
	IPv6 addressing and routing	IPv6 Addressing & Stateless Address Auto Configuration (SLAAC)		Knowledge about IPV6 addressing and routing
	SPILL OVER			
Practical 15	Spill Over			

An instruction plan is only a tentative plan. The teacher may make some changes in his/her teaching plan. The students are advised to use syllabus for preparation of all examinations. The students are expected to keep themselves updated on the contemporary issues related to the course. Upto 20% of the questions in any examination/Academic tasks can be asked from such issues even if not explicitly mentioned in the instruction plan.