



R21 Regulations

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
(Established by Govt. of A.P., ACT No.30 of 2008)
ANANTHAPURAMU – 515 002 (A.P) INDIA

MASTER OF COMPUTER APPLICATIONS

Course Code	COMPUTER NETWORKS LABORATORY	L	T	P	C
21F00208		0	0	4	2
	Semester	II			
Course Objectives:					
<ul style="list-style-type: none"> • To understand the working principle of various communication protocols. • To understand the network simulator environment and visualize a network topology and observe its performance • To analyze the traffic flow and the contents of protocol frames 					
Course Outcomes (CO):					
<ul style="list-style-type: none"> • To understand the working principle of various communication protocols. • To understand the network simulator environment and visualize a network topology and observe its performance • To analyze the traffic flow and the contents of protocol frames 					
List of Experiments:					
<ol style="list-style-type: none"> 1. Implement the data link layer framing methods such as character, character-stuffing and bit stuffing. 2. Write a program to compute CRC code of the polynomials CRC-12, CRC-16 and CRC CCIP 3. Develop a simple data link layer that performs the flow control using the sliding window protocol, and loss recovery using the Go-Back-N mechanism. 4. Implement Dijkstra's algorithm to compute the shortest path through a network 5. Take an example subnet of hosts and obtain a broadcast tree for the subnet. 6. Implement distance vector routing algorithm for obtaining routing tables at each node. 7. Implement data encryption and data decryption 8. Write a program for congestion control using Leaky bucket algorithm. 9. Write a program for frame sorting technique used in buffers. 10. Wireshark <ol style="list-style-type: none"> i. Packet Capture Using Wire shark ii. Starting Wire shark iii. Viewing Captured Traffic iv. Analysis and Statistics & Filters. 11. How to run Nmap scan 12. Operating System Detection using Nmap 13. Do the following using NS2 Simulator <ol style="list-style-type: none"> i. NS2 Simulator-Introduction ii. Simulate to Find the Number of Packets Dropped iii. Simulate to Find the Number of Packets Dropped by TCP/UDP iv. Simulate to Find the Number of Packets Dropped due to Congestion v. Simulate to Compare Data Rate & Throughput. vi. Simulate to Plot Congestion for Different Source/Destination vii. Simulate to Determine the Performance with respect to Transmission of Packets 					