MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

DEPARTMENT OF COMUPTER SCIENCE AND ENGINEERING
2050578 COMPUTER NETWORKS LAB

B.Tech.III Year-I Sem

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VISION

To empower the students to be technologically adept, innovative, self-motivated and responsible global citizen possessing human values and contribute significantly towards high quality technical education with ever changing world.

MISSION

M1	To offer high-quality education in the computing fields by providing an environment where the knowledge is gained and applied to participate in research, for both students and faculty.
M2	To develop the problem solving skills in the students to be ready to deal with cutting edge technologies of the industry.
M3	To make the students and faculty excel in their professional fields by inculcating the communication skills, leadership skills, team building skills with the organization of various co-curricular and extra-curricular programmes.
M4	To provide the students with theoretical and applied knowledge, and adopt an education approach that promotes lifelong learning and ethical growth.

LIST OF EXPERIMENTS

1. Implement the data link layer framing methods such as character, character-stuffing and bit stuffing.

2. Write a program to compute CRC code for the polynomials CRC-12 andCRC-16

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 Dijsktra"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. Wire shark

   • Packet Capture Using Wire shark

![MLRS logo]

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- Starting Wire shark

- Viewing Captured Traffic

- Analysis and Statistics & Filters.

11. How to run Nmap scan

12. Operating System Detection using Nmap

13. Do the following using NS2 Simulator

- NS2Simulator-Introduction

- Simulate to Find the Number of Packets Dropped

- Simulate to Find the Number of Packets Dropped by TCP/UDP

- Simulate to Find the Number of Packets Dropped due to Congestion

- Simulate to Compare Data Rate & Throughput.

- Simulate to Plot Congestion for Different Source/Destination

COURSE OUTCOMES

CO	Course Outcome
C316.1	Implement data link layer farming methods.
C316.2	Analyze error detection and error correction codes.
C316.3	Implement and analyze routing and congestion issues in network design.
C316.4	Implement Encoding and Decoding techniques used in presentation layer.
C316.5	Work with different network tools.

PROGRAM EDUCATIONAL OBJECTIVES

PEO1	To induce strong foundation in mathematical and core concepts, which enable them to participate in research, in the field of computer science.
PEO2	To be able to become the part of application development and problem solving by learning the computer programming methods, of the industry and related domains.
PEO3	To gain the multidisciplinary knowledge by understanding the scope of association of computer science engineering discipline with other engineering disciplines.
PEO4	To improve the communication skills, soft skills, organizing skills which build the professional qualities, there by understanding the social responsibilities and ethical attitude.

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PROGRAM SPECIFIC OUTCOMES

PSO1- APPLICATIONS OF COMPUTING:

Ability to use knowledge in various domains to provide solution to new ideas and innovations.

PSO2- PROGRAMMING SKILLS:

Identify required data structures, design suitable algorithms, develop and maintain software for real world problems.

PSO3-EXECUTIVE SKILLS:

Make use of computational and experimental tools for creating innovative career paths, to be an entrepreneur and desire for higher studies.

Do's & Don'ts

➢ Switch off the power and unplug equipment before performing service.

➢ Know where the fire extinguisher is located and how to use it.

➢ Report fires or accidents to your lecturer/laboratory technician immediately.

➢ Avoid food and drinks from your workspace.

➢ Systems operate under normal room temperature.

➢ Computer lab room's floor should be clean, dry and dust free.

➢ No one is allowed to delete information from the computer.

➢ Enter the computer lab quietly and work quietly.

➢ Do not change computer settings or backgrounds.

➢ Don't plug in external devices without scanning for computer viruses.

➢ SAVE all unfinished work to a cloud drive or jump drive.