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 COMPUTER SCIENCE AND ENGINEERING

2270581 CRYPTO GRAPHY AND NETWORK SECURITY LAB

B. Tech.IV Year-I Sem

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COURSE OUTCOMES - CO'S

- Demonstrate understanding of **bitwise operations** for basic encryption techniques by manipulating characters at the binary level.
- Implement **classical encryption algorithms** such as **Caesar cipher**, **Substitution cipher**, and **Hill cipher** to understand foundational cryptographic techniques.
- Develop and simulate **modern symmetric encryption algorithms** including **DES**, **Blowfish**, and **Rijndael (AES)** for secure data transmission.
- Apply **asymmetric encryption algorithms** like **RSA** and implement **key exchange mechanisms** such as **Diffie-Hellman.**
- Generate **message digests** using hashing algorithms like **SHA-1** and **MD5**, and demonstrate the use of **Java Cryptography Architecture (JCA)** for implementing secure encryption and key management.

LIST OF EXPERIMENTS :

1. Write a C program that contains a string (char pointer) with a value 'Hello world'. The program should XOR each character in this string with 0 and displays the result.
2. Write a C program that contains a string (char pointer) with a value 'Hello world'. The program should AND or and XOR each character in this string with 127 and display the result.
3. Write a Java program to perform encryption and decryption using the following algorithms a. Ceaser cipher b. Substitution cipher c. Hill Cipher
4. Write a C/JAVA program to implement the DES algorithm logic.
5. Write a C/JAVA program to implement the Blowfish algorithm logic.
6. Write a C/JAVA program to implement the Rijndael algorithm logic.
7. Write the RC4 logic in Java Using Java cryptography; encrypt the text "Hello world" using Blowfish. Create your own key using Java key tool.
8. Write a Java program to implement RSA algorithm.
9. Implement the Diffie-Hellman Key Exchange mechanism using HTML and JavaScript.
10. Calculate the message digest of a text using the SHA-1 algorithm in JAVA.