



**BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE**  
 (An AUTONOMOUS INSTITUTION, APPROVED BY AICTE-NEW DELHI, PERMANENTLY  
 AFFILIATED TO JNTUK-KAKINADA, ACCREDITED BY NAAC 'A' GRADE,  
 2 PROGRAMMES (CSE,EEE) ACCREDITED BY NBA ( For A.Y 2023-24 to 2025-26)  
 Post Box: 26, Amalapuram 533201, Dr.B R Ambedkar Konaseema Dt., A.P.

**BR23 B.Tech CSE III YEAR II SEMESTER SYLLABUS**

III Year II Semester	CRYPTOGRAPHY & NETWORK SECURITY LAB (23CS6L02)	L	T	P	C
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**Course Objectives:**

- To learn basic understanding of cryptography, how it has evolved, and some key encryption techniques used today.
- To understand and implement encryption and decryption using Ceaser Cipher, Substitution Cipher, Hill Cipher.

**Course Outcomes (COs)**

- By the end of this course, students will be able to:
- **CO1:** Apply bitwise operations and simple ciphers (Caesar, Substitution, Hill) to understand the fundamentals of cryptographic transformations.
- **CO2:** Implement and test symmetric key encryption algorithms such as DES, Blowfish, and Rijndael (AES).
- **CO3:** Utilize Java Cryptography APIs and tools (e.g., keytool) for encryption, key generation, and secure communication.
- **CO4:** Implement and evaluate public key cryptographic techniques such as RSA and Diffie-Hellman key exchange.
- **CO5:** Apply hashing algorithms (e.g., SHA-1) to generate message digests and verify data integrity.

**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 Java program to implement the DES algorithm logic

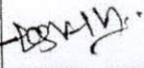
Dr.N.Rama Krishnaiah, Professor of CSE,UCEK & Control of Examination JNTUK, kakinada.	Dr.C.Krishna Mohan, Professor of CSE,IIT, Kandi, Hyderabad.	Dr.P.Radha Krishna, Professor of CSE,NIT, Warangal	Mr.Rajesh Bobburi Chief Operating Officer, HighQ Labs Private Limited, Rajahmundry	Dr.Lakshmi Haritha Medida, Associate Professor, R.M.K.Engineerin g College,Kavaraip ettai,Tamilnadu	Dr.K.Srinivas Professor & HoD Department of CSE, B.V.C.I.T.S, Batlapalem



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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. 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. Consider the end user as one of the parties (Alice) and the JavaScript application as other party (bob).
10. Calculate the message digest of a text using the SHA-1 algorithm in JAVA.

					
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