

## **PRACTICALS ON NETWORK SECURITY**

1. Write a program to perform substitution ciphers to encrypt the plain text to Caesar cipher and to decrypt it back to plain text.
2. Write a program to perform substitution ciphers to encrypt the plain text to Modified Caesar cipher and to decrypt it back to plain text.
3. Write a program to perform substitution ciphers to encrypt the plain text to monoalphabetic cipher and to decrypt it back to plain text.
4. Write a program to perform transposition ciphers to encrypt the plain text to cipher and to decrypt it back to plain text using rail fence technique.
5. Write a program to perform transposition ciphers to encrypt the plain text to cipher and to decrypt it back to plain text using Simple Columnar technique.
6. Write a program to encrypt a plain text to a cipher text and decrypt it back to plain text using vernam cipher as the technique.
7. To detect Errors using Vertical Redundancy Check (VRC).
8. To detect Errors using Longitudinal Redundancy Check (LRC).
9. To detect Errors using Cyclic Redundancy Check (CRC).
10. Socket programming to implement Asynchronous Communication.
11. Socket programming to implement Synchronous Communication.
12. To implement Stop & Wait Protocol.
13. To implement Sliding Window Protocol.
14. To implement the Shortest Path Routing using the Dijkstra algorithm.
15. Socket Programming to Perform message passing from Server to the Client.
16. To implement Remote Procedure call under Client / Server Environment.
17. Write a program to generate Symmetric Keys for the following Cipher algorithms DES, AES, Blowfish, TripleDES, HmacMD5 and HmacSHA1.
18. Write a program to generate asymmetric Keys for the following Cipher algorithms a) DH (DiffieHellman), b) RSA.
19. Implement following HashFunctions: RSHash, JSHash, BKDRHash, SDBMHash, DJBHash
20. Write a program for creating, exporting and validating Digital Certificate.
21. Create a permission that controls access to pages of a book. The permission name consists of a book id, a colon, and a set of allowable pages.
22. Defeating Malware i) Building Trojans ii) Rootkit Hunter