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| Name: | Prerna Sunil Jadhav |
| Sap Id: | 60004220127 |
| Class: | T. Y. B. Tech (Computer Engineering) |
| Course: | Information Security Laboratory |
| Course Code: | DJ19CEL603 |
| Experiment No.: | 03 |

**AIM:** Study and Implement Vernam Cipher.

**CODE:**

import random

def generate\_key(plaintext\_length):

    key = ''.join(random.choice('ABCDEFGHIJKLMNOPQRSTUVWXYZ') for \_ in range(plaintext\_length))

    return key

def encrypt(plaintext, key):

    ciphertext = ''.join(chr(ord(p) ^ ord(k)) for p, k in zip(plaintext, key))

    return ciphertext

def decrypt(ciphertext, key):

    decrypted\_text = ''.join(chr(ord(c) ^ ord(k)) for c, k in zip(ciphertext, key))

    return decrypted\_text

if \_\_name\_\_ == "\_\_main\_\_":

    plaintext = "Hi This is Prerna"

    key = generate\_key(len(plaintext))

    print("Plaintext:", plaintext)

    print("Key:", key)

    ciphertext = encrypt(plaintext, key)

    print("Ciphertext:", ciphertext)

    decrypted\_text = decrypt(ciphertext, key)

    print("Decrypted Text:", decrypted\_text)

**OUTPUT:**

