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Subject name: Information security and cyber Laws

3) Vigenere Cipher:

```
def generateKey (string, key):
    key = list (key)
    If len (string) == len (key):
        return (key)
    else:
        for i in range (len (string) - len (key)):
            key. append (key [i % len (key)])
    return ("". join (key))

def cipherText (string, key):
    cipher_text = []
    for i in range (len (string)):
        x = (ord (string [i]) + ord (key [i])) % 26
        x += ord ('A')
        cipher_text. append (chr (x))
    return ("". join (cipher_text))

def originalText (cipher_text, key):
    orig_text = []
    for i in range (len (cipher_text)):
        x = (ord (cipher_text [i]) - ord (key [i]) + 26) % 26
        x += ord ('A')
        orig_text. append (chr (x))
```

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```
    return (" ".join(orig_text))

if __name__ == "__main__":
    string = "Cryptography"
    keyword = "Monarchy"
    key = generateKey(string, keyword)
    cipher_text = cipherText(string, key)
    print("Cipher text :", cipher_text)
    print("Original text / decrypted text :",
                    originalText(cipher_text, key))
```

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4) B. OTP :

```
import math, random

def generateOTP():

    digits = "0123456789"
    OTP = ""

    for i in range(4):
        OTP += digits[math.floor(random.random() * 10)]

    return OTP

if __name__ == "__main__":
    print("OTP is :", generateOTP())
```

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5) Caeser Cipher :

```
def encrypt (text, s):
    result = " "

for i in range (len (text)):
    char = text [i]

if (char.isupper()):
    result += chr((ord(char) + s-65) % 26 +65)

else:
    result += chr((ord(char) + s - 97) %26 +97)

return result

text = " Attack from North"
s=4
print " Text : " + text
print " Shift : " + str(s)
print " Cipher : " + encrypt (text,s)
```

Yogi