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Subject - Info. Security
and Cyber Law.

. Sub. Code :- PBC - 601.

③.
```
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 o 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))
```

```python
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))
    return("".join(orig-text))

if __name__ == "__main__":
    String = "Cryptography"
    keyword = "Monarchy"
    key = generateKey (string, keyword)
    cipher-text = cipherText (string, key)
    print("Ciphertext :", cipher-text)
    print("Original / Decrypted Text : ",
          originalText(cipher-text, key))
```

④
```python
import math, random
def generate OTP():
    digits = "0123456789"
    OTP = ""
    for i in range(4):
        OTP += digits[math.floor(random.random() *
                               10)]
    return OTP

if __name__ == "__main__":
    print("OTP of 4 digits:", generateOTP())
```

⑤

```
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)
```