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Subject Name → Information Security & Cyber Laws

Course → BCA

Sec → C

Subject Code → TBC-601

Ans 3)

```
#include <stdio.h>
#include <string.h>

int main()
{
    char msg[] = "Cryptography";
    char key[] = "Monarchy";
    int msgLen = strlen(msg), keyLen = strlen(key), i;
    int j;

    char newKey[msgLen], encryptedMsg[msgLen],
    decryptedMsg[msgLen];

    for(i=0, j=0; i<msgLen; i++, j++)
    {
        if(j==keyLen)
            j=0;
        newKey[i] = key[j];
    }
```

```
newkey[i] = '\0';

// Encryption
for(i=0; i<msgLen; i++)
    encryptedmsg[i] = ((msg[i] + newkey[i]) % 26) + 'A';

encryptedmsg[i] = '\0';

// decryption
for(i=0; i<msgLen; i++)
    decryptedmsg[i] = (((encryptedmsg[i] - newkey[i]) + 26)
                        % 26) + 'A';

decryptedmsg[i] = '\0';

printf("original message : %s", msg);
printf("\n key : %s", key);
printf("\n New generated key : %s", newkey);
printf("\n Encrypted message : %s", encryptedmsg);
printf("\n Decrypted message : %s", decryptedmsg);

return 0;

}
```