Assignment 2B

One Time Pad for Numeric Plaintext

The given table contains the 4-bits code for the ten digits (0 : 9) in addition to some special characters.

1. Use the following plaintext and key to do one time pad encryption:

* The plaintext is the most significant 10 digits from your national ID number.
* The key will be given later in the classroom.

1. Decrypt the obtained ciphertext using the same key.
2. Write down the results obtained in the following solution report sheet.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Character | 4-bits code | | | |
| 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 1 |
| 2 | 0 | 0 | 1 | 0 |
| 3 | 0 | 0 | 1 | 1 |
| 4 | 0 | 1 | 0 | 0 |
| 5 | 0 | 1 | 0 | 1 |
| 6 | 0 | 1 | 1 | 0 |
| 7 | 0 | 1 | 1 | 1 |
| 8 | 1 | 0 | 0 | 0 |
| 9 | 1 | 0 | 0 | 1 |
| + | 1 | 0 | 1 | 0 |
| - | 1 | 0 | 1 | 1 |
| / | 1 | 1 | 0 | 0 |
| = | 1 | 1 | 0 | 1 |
| \* | 1 | 1 | 1 | 0 |
| @ | 1 | 1 | 1 | 1 |

Solution Report for Assignment – 2B

St.Name: ………………………………………………………………………

St.No: ………………………………

1. One time pad encryption

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Plaintext Character | Key Character | Plaintext bits | Key bits | Ciphertext bits | Ciphertext Character |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

1. One time pad decryption

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Ciphertext Character | Key Character | Ciphertext bits | Key bits | Plaintext bits | Plaintext Character |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |