Page No.
Date: / /

★ Transposition techniques
- Scrambling of the data.

(1) Rail fence technique.

Ex. Plaintext = ~~Hellothere~~ Cryptography
Key (depth) = 3.

~~Encryptiongroup~~ Encryption.
- Arrange the data column wise

C	P	G	P
R	T	R	H
Y	O	A	Y

- Write data row wise
Ciphertext = CPGPRTRHYOAY.

→ Decryption.

- Arrange the data row wise
Total no. of letters / dept = 12 / 3 = 4
So, 4 columns,

C	P	G	P
R	T	R	H
Y	O	A	Y

- Read data column wise,

Plaintext = CRYPTOGRAPHY.

Page No.:
Date: / /

Ex. Plaintext = Hello How Are You
Key (depth) = 3.

→ Encryption

H	l	O	␣	O
e	O	W	e	y
l	H	A	y	x

C.T. = HLORO EOWEU LHAYX.

→ Decryption

$\frac{15}{3} = 5$

H	L	O	R	O
E	O	W	E	U
L	H	A	Y	X

P.T. = HELLOHOWAREYOUX

(2) Columnner technique:

Ex. P.T. = This is IS lecturex.
key = 5143.

(Level : 1)

- fill the data row wise.

Encryption:

5	1	4	3
T	h	i	s
i	s	I	S
l	e	c	t
u	r	e	x

- Take minimum value of column and write it first and than increasing manner.

C.T. = HSERS S T X, IICE, TILU.

Decryption:

$\frac{16}{4} = 4$

fill the data column wise.

5	1	4	3
T	H	I	S
I	S	I	S
L	E	C	T
U	R	E	X

- Read data row wise.

P.T. = THIS IS ISLECTUREX.

Page No.:_____
Date:__/__/__

Encryption:

→ Level: 2.

P.T. = H S E R S S T X I I C E T I L U

5	1	4	3
H	S	E	R
S	S	T	X
I	I	C	E
T	I	L	U.

C.T. = SSII, RXEU, ETCL, HSIT.

→ Decryption.

$\frac{16}{4} = 4$

5	1	4	3
H	S	E	R
S	S	T	X
I	I	C	E
T	I	L	U

P.T. = HSER, SSTX, IICE, TILU.

Ex. ~~Columnar~~

P.T. = Hello How Are You.

Key = 5 1 2 4

→ Encryption:

5	1	2	4
H	E	L	L
O	H	O	W
A	R	E	Y
O	U	X	X.

C.T. = EHRU LOEX LWYX HOAO

→ Decryption:

$\frac{16}{4} = 4$

5	1	2	4
H	E	L	L
O	H	O	W
A	R	E	Y
O	U	X	X.

P.T. = HELLOHOWAREYOUXX.