columnar transposition cipher:

code:

```
#include <iostream>
#include <string>
using namespace std;
string cipher(string s);
int main()
{
string s = "";
getline(cin, s);
cout << cipher(s);
return 0;
}
string cipher(string s)
{
int row, col, p, q, a, b, k = 0, o = 0;
string cipher = "";
int key_order[] = {3, 5, 4, 2, 1};

cout << "Length of String:" << s.length() << endl;
cout << "Enter the number of columns" << endl;
cin >> col;
// cout<<col<<endl;

row = s.length() / col;
```

```
if (s.length() % col)
{
   row += 1;
}
cout << "Row:" << row << endl;

char arr[row][col];

// storing string values in a 2d array
for (p = 0; p < row; p++)
{
   for (q = 0; q < col; q++)
   {
      arr[p][q] = s[k];
      k++;
   }
}

// Encrypting the message
for (a = 0; a < col; a++)
{
   for (b = 0; b < row; b++)
   {
      cipher = arr[b][(arr[b][a] + (key_order[o] - 1))];
   }
   o++;
```

```
}
cout << cipher;


return cipher;
// char arr[][col];
}
```

OUTPUT: