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Course:- BCA Semester: 6th

Paper Name:- Information Security & Cyber law

Paper Code:- PBC-601

5.

```
#include <stdio.h>
#include <ctype.h>
#include <string.h>
int main()
{
char msg = "ATTACK FROM NORTH", ch, messaged;
int i, key;
printf("Enter key:");
scanf("%d", &key);
for (i=0; message[i] != '\0'; i++)
{
  ch = message[i];
  if(ch >='a' && ch <='z')
  {
    ch = ch + key;
    if (ch >'z')
    {
      ch = ch - 'z' + 'a' - 1;
    }
    message[i]= ch;
  else if (ch >='A' && ch <='z').
  {
```

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```
        ch = ch + key;
        if (ch > 'z')
        {
          ch = ch - 'z' + 'A' - 1;
        }
        message[i] = ch;
      }
    }
    printf("Encrypted message is %s\n", message);
    for(i = 0; message[i] != '\0'; i++)
    {
      ch = message[i];
      if (ch >= 'a' && ch <= 'z')
      {
        ch = ch - key;
        if (ch < 'a')
        {
          ch = ch + 'z' - 'a' + 1;
        }
        messaged[i] = ch;
      }
      else if (ch >= 'A' && ch <= 'Z')
      {
        ch = ch - key;
        if (ch < 'A')
        {
          ch = ch + 'Z' - 'A' + 1;
        }
```

```
        messaged[i] = ch;
    }
}
printf("Decrypted Message is %s", messaged);
    return 0;
}
```

(3)

```
#include <stdio.h>
#include <string.h>
int main()
{
  char msg[] = "CRYPTOGRAPHY";
  char key[] = "MONARCHY";
  int msglen = strlen(msg), keylen = strlen(key), i, j;
  char newkey[msglen], enmsg[msglen], demsg[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)
  {
    enmsg[i] = ((msg[i] + newkey[i]) % 26) + 'A';
  }
  enmsg[i] = '\0';

  // decryption
  for(i=0; i<msglen; ++i)
  {
    demsg[i] = (((enmsg[i] - newkey[i] + 26) % 26)
                + 'A');
  }
```

```
    demsg[i] = '\0';
    printf("\n Original msg: %s", msg);
    printf("\n Key: %s", key);
    printf("\n New generated key: %s", newkey);
    printf("\n Encrypted msg: %s", enmsg);
    printf("\n Decrypted msg: %s", demsg);
    return 0;
}
```

4.

```
#include <stdio.h>
#include <string.h>
#include <ctype.h>
void main()
{
int i, j, len1, len2, numstr[100], numkey[100],
                                numcipher[100];

char str[100], key[100], cipher[100];
printf("Enter a string text to encrypt.... \n");
gets(str);
for(i=0; j=0; i<strlen(str); i++)
{
if(str[i]!=' ')
{
str[j]=toupper(str[i]);
j++;
}
}
str[j]='\0';
for(i=0; i<strlen(str); i++)
{
numstr[i] = str[i]-'A';
}
printf("Enter key string of random text.... \n");
gets(key);
for(i=0, j=0; i<strlen(key); i++)
```

```
{
  if (key[i]!=' ')
  {
    key[j]= toupper(key[i]);
    j++;
  }
}
key[j]='\0';
for (i=0; i<strlen(key); i++)
{
  numkey[i]= key[i]-'A';
}
for (i=0; i<strlen(str); i++)
{
  numcipher[i]= numstr[i]+numkey[i];
}
for(i=0; i<strlen(str); i++)
{
  if(numcipher[i]>25)
  {
    numcipher[i]= numcipher[i]-26;
  }
}
printf("One time Pad Cipher text is \n");
for (i=0; i<strlen(str); i++)
{
  printf("%c", (numcipher[i]+'A'));
}
printf("\n");
}
```

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