

Name - Akash Gupta
Roll no- 1022718
Course - BSc(IT) 6 sem.

Course name - Information Security & Cyber
Course ID - PBI 601
Sign. - Akash

(1)

Q-1 types of vulnerability for hacking a website

Ans-

1) SQL (structured Query language) :- is now so commonly used to manage and direct information on applications that hackers have come up with ways to slip their own SQL commands into the database. These commands may change, steal or delete data, and they may also allow the hacker access to the root system.
SQL injection attacks typically occur because a vulnerable application doesn't properly sanitize inputs provided by the user, by not stripping out anything that appears to be SQL code.

2) Cross-Site Scripting (XSS) attacks :- can significantly damage a web company's reputation by placing the user information at risk without any indication that anything malicious ever occurred. Any sensitive information a user sends to the site or the application - such as their credentials,

Name - Akash Gupta
Rollno - 1022718

sign. - Akash

(2)

Credit card information, or other private data can be hijacked via cross-site scripting without the owners realizing there was even a problem in the first place.

3) Cross-Site Request Forgery (CSRF): attack is when a victim is forced to perform an unintended action on a web application they are logged into. The web application will have already deemed the victim and their browser trustworthy, and so executes an action intended by the hacker when the victim is tricked into submitting a malicious request to the application. This has been used for everything from harmless pranks on users to illicit money transfers.

4) Security Misconfiguration:- encompasses several types of vulnerabilities all centered on a lack of maintenance or a lack of attention to the web application configuration. A secure configuration must

Name - Akash Gupta
Roll no - 1022718

Sign - Akash

be defined and deployed for the application, frameworks, application server, web servers, database servers & platform. Security misconfiguration gives hackers access to private data or features and can result in a complete system compromise.

5.) Insecure direct object References :- is when a web application exposes a reference to an internal implementation object. Internal implementation objects include files, database records, directories and database Keys, When an application exposes a reference to one of these objects in a URL, hackers can manipulate it to gain access to a user's personal data.

Q-4 Password Management

Ans - Passwords are a set of strings provided by users at the authentication prompts of web accounts. Although passwords still remain as one of the most secure methods of authentication available to date, they are subjected to a number of security threats when mishandled. The role of password management comes in handy here. Password management is a set of principles and best practices to be followed by users while storing and managing passwords in an efficient manner to secure passwords as much as they can to prevent unauthorized access.

→ Online tools.

- 1.) KeePass - is a free and open source password management software which helps you in storing passwords in a single database, accessible using a master

Name - Akash Gupta
Roll no - 1022718

Sign. - Akash

(5)

password.

- 2) Passbolt :- is one of the best open source password management software which is self-hosted, highly scalable, and OpenPGP based.
- 3) Password Safe :- is a simple and highly secure password management software which works using MS windows platform. With the help of this sw, the users can keep their passwords stored in an encrypted format.
- 4) KeePassXC is a cross-platform application which stores your passwords securely and auto-types them when required for the sw and applications you use frequently. It saves you from the trouble of memorizing the passwords you need to use every day.

Name - Akash Gupta
Roll no - 1022718

Sign. - Akash

(6)

O-2 implement One Time Pad.

Code #include <stdio.h>

#include <iostream.h>

#include <cctype.h>

int 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; j<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';

 }

Name - Akash Gupta
Roll no - 1022718

Sign - Akash

(7)

```
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)
```

{

Name - Akash Gupta
Roll no - 1022718

sign - Akash

(8)

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");

{

{

Enter a string text to encrypt

one time pad

Enter key string of random text

perfect

One Time Pad Cipher text is

DRVYMOXPD

Process exited after 12.02 seconds with return

Press any key to continue . . .