**IT7612 INFORMATION SECURITY AND MOBILE COMPUTING LABORATORY L T P C**

**0 0 4 2**

**OBJECTIVES:**

* To present several hands-on exercises to reinforce the students knowledge and understanding of the various information security aspects.
* To develop mobile applications in android environment.
* To explore the concepts of mobile computing using mobile simulators.

**LIST OF EXERCISES:**

The following exercises are based on the cryptographic algorithms. They can be implemented using C,

C++, Java, etc.

1. Write a program to perform encryption and decryption using the following algorithms

a.Ceaser cipher

b.Substitution cipher

c.Hill Cipher

2. Write a program that contains functions, which accept a key and input text to be encrypted/decrypted.

The program should use the key to encrypt/decrypt the input by using DES and triple DES algorithm.

3. Implement the Diffie-Hellman Key Exchange mechanism using HTML and any Scripting language.

4. Implementation of RSA algorithm and Rijindael algorithm logic.

5. Calculate the message digest of a text using the SHA/MD5 algorithm and verification of the message

digest.

6. Write a program which performs a digital signature on a given text.

7. Location based services for a mobile application in android.

8. Mobile application for accessing hardware devices like camera and sensors.

9. Event handling in android.

10. Animations and graphical primitives in android.

11. Develop a mobile application to simulate the concept of frequency reuse in Cellular systems.

12. Performance analysis of various node deployment strategies in mobile environment using

mobile network simulators such as Qualnet, GloMoSim, NetSim and NS2.

**OUTCOMES:**

On completion of the course the students should be able to:

* attain knowledge of the fundamentals of secret and public key cryptography.
* implement specific encryption/decryption algorithms.
* implement secret key exchange strategies.
* develop basic mobile applications in android environment.
* create simple animations in android.
* explore the performance analysis in mobile simulators.