MODULE CODE: ATHE 5.1 CYBER SECURITY

NAME: FATIMA EJAZ BARRI

Email: mishalfatimaeb@gmail.com

Topics Given by tutor: Shahid Mustafa

# Why is cryptograph and why is it important?

* Cryptography is the science of hiding information in plain sight, in order to conceal it from unauthorized access. It is a technique of storing and transmitting data in a particular form so that only those for whom it is intended can read and process it.
* Cryptography makes secure web sites and electronic safe transmissions possible. For a web site to be secure all of the data transmitted between the computers where the data is kept and where it is received must be encrypted. Due to the large number of commercial transactions on the internet, cryptography is very key in ensuring the security of the transactions.
* Cryptography allows you to have confidence in your electronic transactions. Encryption is used in electronic transactions to protect data such as account numbers and transaction amounts, digital signatures replace handwritten signatures or credit card authorizations, and public-key encryption provides confidentiality. Key management is an important aspect in encryption that allows you to apply common encryption policies across all data on all managed devices.
* Cryptography is also used in access control to regulate access such as in satellite  
  and cable TV. Without cryptography, hackers could get into our e-mail, listen in on our phone conversations, tap into cable companies, acquire free cable service, or break into our bank/brokerage accounts. Time stamping is a cryptographic technique that can certify that a certain electronic document, communication existed or was delivered at a particular time.
* In general, cryptography is an important way of achieving data confidentiality, data integrity, user authentication and non-repudiation.

# Difference between public and private keys?

|  |  |
| --- | --- |
| **Public keys** | **Private keys** |
| Private key is faster than public key. | It is slower than private key. |
| In private key cryptography, the key is kept as a secret. | In public key cryptography, one of the two keys is kept as a secret. |
| Private key is Symmetrical because there is only one key that is called secret key. | Public key is Asymmetrical because there are two types of key: private and public key. |
| In this cryptography, the key is private. | In this cryptography, public key can be public and private key is private. |