**Unit I**

**Protection and Security**

Protection and security requires that computer resources such as CPU, software, memory etc. are protected. This extends to the operating system as well as the data in the system. This can be done by ensuring integrity, confidentiality and availability in the operating system. The system must be protecting against unauthorized access, viruses, worms etc.

## Protection and Security Methods

This deals with identifying each user in the system and making sure they are who they claim to be. The operating system makes sure that all the users are authenticated before they access the system. The different ways to make sure that the users are authentic are:

* Username/ Password: Each user has a distinct username and password combination and they need to enter it correctly before they can access the system.
* User Key/ User Card: The users need to punch a card into the card slot or use they individual key on a keypad to access the system.
* User Attribute Identification: Different user attribute identifications that can be used are fingerprint, eye retina etc. These are unique for each user and are compared with the existing samples in the database. The user can only access the system if there is a match.