

### Information Technology

The use of computers for the processing and distribution of information in digital, audio/video and other forms.

Information science is primarily concerned with acquisition, storage, processing and organisation of data.

### Basic terms used in IT

1. Network  
Group of computers interconnected in order to share resources or exchange information.
2. Node  
Different terminals which are attached to the network can share files and other resources. In a computer network, the node is a computer.
3. Server  
A system or a program that provides a specific kind of service to client's software running on other computers.  
This is a dedicated system which helps clients (other computers).
4. Internet  
It is a network of networks where in a large number of computers are interconnected and this interconnection today exists at a global level.
5. Internet Protocol  
It is a set of rules to send and receive messages at the internet address level. It is a protocol by which data is sent from one computer to other on the internet.
6. Transmission Control Protocol  
It is a connection oriented protocol used along with IP to send data in the form of message units after reassembling them into the right order as a complete message at the other end.
7. WWW  
It is a World-wide system of interconnected computer files linked to one another on the internet. It was developed by Tim Berners Lee (present director of WWW consortium).
8. HTTP  
Hyper Text Transfer Protocol. It is a set of rules for computers to retrieve textual data from remote server.
9. HTTPS  
It is a software program designed to scan and analyse the HTML. It is based on secure socket layer (SSL) which is a cryptographic security measure that protects sensitive data on the internet.
10. URL (Uniform Resource Locator)  
It is a universal naming convention used for locating and accessing resources via the internet.
11. Malware  
These are malicious software in the form of viruses, worms and Trojanhorse.  
These softwares have the capability to alter, effect or in extreme cases shutdown the programs that are running on a computer or on a specific network. The reason that they are known as virus is that they spread to computers with which they communicate.

## 12. Trojan or Trojan horses

These are malicious software that comes disguised as a useful application program and when opened the Trojan starts executing and destroys the files on the computer.

### Cyber Warfare

Cyber espionage has been believed to have started widely from 2007, when a campaign known as ROCRA began.

### STUXNET Virus

It is believed to have been developed by Israel and US and was aimed at crippling Iran's infrastructure, especially Iran's Nuclear Development Infrastructure. The result is that, Iran's nuclear development program has been delayed by more than 2 years.

### Flame Virus

It is also known as Flamer or Skywiper. It attacks computers that run windows. It was discovered in 2012, by MAHER centre of Iranian national CERT and Kaspersky lab.

### Red October Victims

A recent report by Kaspersky lab which initiated a new threat research revealed a large scale cyber espionage network which it called the "Red October" victims.

The lab mentions that there were a series of attacks against diplomatic, governmental and scientific research organisations.

The report places India on the 5<sup>th</sup> position on the most affected list.

Russia was the most affected by these attacks.

It is being seen that the Command and Control infrastructure is being used by various hackers all over the world.

**Command and Control infrastructure** is a chain of servers working as proxies and hiding the location of "Mothership" control server.

**Distributed Denial of Service (DDoS)**: is a situation where in multiple systems submit as many requests as possible to a single computer or service there by overloading it and preventing it from servicing legitimate requests.