# SYSTEM SECURITY, ICT ETHICAL ISSUES & EMERGING TECHNOLOGIES

**What is the meant by system security?**

*This refers to safe guarding computer resources, ensuring data integrity, limiting access to authorized users, and maintaining data confidentiality.*

**Distinguish between data security and data corruption?**

***Data security*** *refers to protective digital privacy measures that are applied to prevent unauthorized access to computers, databases and web sites whereas* ***Data corruption*** *refers to error or damages in data that may occur during reading, writing, processing, storage or transmission of said data which may introduce unintended/ unwanted changes of the original data.*

**Define the term a computer security risk.**

*This refers to any event or action that could a loss of damage of computer hardware, software, data, information, or processing capability.*

**Mention examples of security risks commonly experienced today.**

* *Hardware threats*
* *Software threats*
* *Information threats*
* *Unauthorized access and use*
* *System failure*
* *Internet and network attack*

**Define the tern a computer virus.**

*A computer virus is a program designed specifically to damage, infect and affect other programs, data or cause irregular behavior to the compute.*

**Suggest the possible symptoms of a virus infected computer**

* *System slowdown*
* *System crushes and hangs up*
* *Hard disk will not boot*
* *Corrupted hard disk data*
* *Program sizes keep changing*
* *Computer programs take long to boot than normal*
* *Files will not open*

**Why do people create computer viruses? Give (4) four reasons.**

* *To steal sensitive information*
* *To take control of a computer and use it for specific task*
* *To generate money*
* *To prove a point, to prove it can be done*
* *To cripple a computer or a network*

**Explain any five examples of computer viruses that you know.**

* ***Aboot sector virus***

*This executes when a computer starts up because it resides in the boot sector of a floppy disk or master boot record of a hard disk.*

* ***A File virus***

*This attaches itself to program files, and it is loaded into memory when the infected program is run*

* ***A micro virus***

*This uses the micro language of an application (e.g., word processor or spreadsheet) to hide the virus code.*

* ***A logic bomb***

*This is the virus that activates when it detects acertain condition.*

* ***Atime bomb***

*This is a kind of logic bomb that activates when it detects on a particular date.*

* ***A worm***

*This copies itseif repeatedly in memory or on a disk drive until no memory or disk space remains, which makes the computer stop working.*

* ***A Trojan horse***

*This is a program that hides within or looks like a legitimate program, but executes when a certain condition or action is triggered.*

* ***A polymorphic virus***

*This modifies it program code each tome it attaches itself to another program or file, so that even an antivirus utility has difficulty in detecting it* ***(cannot be seen with an antivirus)***

**Explain the ways how computer viruses are activated.**

* *Opening an infected file*
* *Running an infected program*
* *Starting up the computer with an infected floppy disk and flash disks*

**Suggest the ways how computer viruses are spread.**

* *Through E-mail attachments*
* *Rogue websites E.g. some adult sites, gambling sites etc.*
* *Sharing infected disks*
* *Through networks*
* *Through infected software*
* *Hackers*
* *Through downloads from the internet*
* *Through software updates*

**Explain the possible ways of protecting your computer and data from viruses in a computer system.**

* *Save your work*
* *Make a backup of all important files.*
* *Always update your software*
* *Perform regular maintenance*
* *Scam all disks from other computers*
* *Protect your password and change if after some time*

**Define the term a computer crime?**

* *This is the crime illegal or unauthorized use of computer technology to manipulate critical user data.*
* *It refers to any crime that involves a computer and a network*