

## System security, ICT ethical issues and emerging technologies

Describe the concept of system security

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Differentiate between data security and data corruption

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What is a computer security risk?

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Differentiate between a computer crime and a cyber crime

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Outline any four computer security risks

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Define the term computer virus

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Why do people create computer viruses? Give four reasons

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Write down two tasks carried out by a computer virus

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Mention three basic ways of activating computer viruses

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Suggest four ways through which computer viruses are spread.

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Explain any ten types of computer viruses

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Outline two risks posed by viruses

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Give five sources of computer viruses

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Mention six symptoms of computer viruses

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State six ways through which computers can be protected from computer viruses

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What is a virus signature/definition?

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Define the term antivirus program

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Mention three examples of antivirus programs

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Differentiate between unauthorized access and unauthorized use of computer systems

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State two forms of unauthorized access of computer systems

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Outline two forms of unauthorized use of computer systems

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Suggest four control measures against unauthorized access to computer systems

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Access control is normally implemented using a two phase process. Explain the two phases.

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Describe the following methods of identification and authentication.

Username and passwords

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Possessed objects

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Callback systems

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Biometric devices

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List down two tips for safeguarding your password

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Write short notes on any five biometric devices

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Outline one advantage and four disadvantages of biometric devices

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Differentiate between a hacker and hacking

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How can hacking be prevented? Give four ways

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What is a denial of service attack (DOS)?

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How can a denial of service attack be undertaken? Give two ways

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Differentiate between cracking and spoofing

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What is the difference between hardware theft and hardware vandalism?

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Suggest five precautions that can be undertaken to prevent hardware theft.

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Define software theft

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Give two forms of software theft

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What is information theft?

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State two reasons as to why information is stolen

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Give three ways through which theft of information and software can be prevented.

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Define system failure

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Give three causes of system failure

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Outline three effects of system failure

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Give three ways of preventing system failure

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Suggest three measures that can be undertaken to protect computers against electrical power disturbances

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Identify any three possible threats to a computer network.

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What is a backup?

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Describe the following types of backup

Full backup

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Differential backup

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Incremental backup

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Define the term malware

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Suggest three ways through which malware can enter into your computer

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Identify three examples of malware

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Differentiate between phishing and pharming

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What is a firewall?

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How does a firewall protect your computer? Give four ways

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Differentiate between a hardware firewall and software firewall

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Mention three advantages and three disadvantages of a hardware firewall

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Explain any three advantages and three disadvantages of a software firewall

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What is data encryption?

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What is an encryption key?

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Differentiate between plain text and cipher text

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What is the difference between public key encryption and symmetric encryption?

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Give two advantages and two disadvantages of public key encryption

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Identify two advantages and two disadvantages of symmetric encryption

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Suggest three physical barriers used to protect computers.

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Differentiate between an audit trail and access controls.

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Outline any five health risks associated with prolonged computer use.

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Identify five precautions that can be undertaken to prevent health risks

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What is ergonomics as used under computer security?

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What does EMR stand for?

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What are computer ethics?

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Suggest five areas of computer ethics

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What is software piracy?

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Suggest two reasons why software piracy continues.

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Identify three negative effects of software piracy

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How can software piracy be reduced? State any four ways

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Define the term license agreement

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Describe the following terms

Single-user agreement

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Site license

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Network site license

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What does a single user agreement allow a user to do?

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What does a single user agreement deter a user to do?

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Define information privacy

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What kind of information can infringe on information privacy? State any four.

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Suggest four forms of privacy violations

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What is information accuracy?

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Define intellectual property rights

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Differentiate between copyright and trademark

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Suggest eight reasons as to why the copyright law is needed in the modern computer era.

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Describe the concept of codes of conduct

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Outline any eight codes of conduct users must follow

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Explain the following electrical power variations.

Noise

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Under voltage

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Over voltage

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Differentiate between brownout and blackout

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