SmartKalike

CBSE Class 12 · Computer Science

seCurITy aspeCTs

10 most probable questions for Boards 2027

Q1. 2 marks · Short answer

What is network security concerned with? What is a network threat, and how can it cause harm? (2 marks)

Answer

Network security is concerned with protecting devices and data from illegitimate access or misuse. A network threat exploits a vulnerability or weakness in a network or communication system, causing damage or harming reputation.

Q2. 5 marks · Long answer

Define malware and state its general purpose. Name four common types of malware described in the text. (5 marks)

Answer

Malware is a short term used for MALicious softWARE and means any software developed with an intention to damage hardware devices, steal data, or cause any other trouble to the user.
1. A virus is a piece of software code created to perform malicious activities and hamper computer resources such as CPU time, memory, personal files, or sensitive information.
2. A worm is malware that causes unexpected or damaging behaviour; unlike a virus, a worm is a standalone program that replicates on its own and can spread through a network.
3. Ransomware targets user data by blocking access or threatening to publish personal data online and demanding ransom payment; some ransomware encrypts data.
4. A Trojan looks like legitimate software and tricks a user into installing it, but does not self-replicate or infect other files.
These malware types compromise computer security, and malware causes financial damages worth billions of dollars worldwide each year.

Q3. 2 marks · Short answer

State the purpose of network security. (2 marks)

Answer

Network security protects devices and data from illegitimate access or misuse. It addresses threats that exploit vulnerabilities or weaknesses in networks and communication systems, potentially causing damage or harming a person’s reputation.

Q4. 5 marks · Long answer

Explain how a virus infects and activates on a computer. Describe three harmful activities it may perform. (5 marks)

Answer

A computer virus is malicious software code that performs harmful activities and hampers computer-system resources.
1. A virus spreads on contact with another system by copying or inserting its code into computer programs or software, including executable files.
2. A virus remains dormant on a system until a user opens or executes the infected file.
3. Opening the infected file activates the virus, allowing it to perform its malicious activities on the computer.
4. A virus may steal passwords or data, corrupt files, spam the user's email contacts, or take control of the user's machine.
Viruses can therefore compromise data, disrupt computer use, and misuse system resources.

Q5. 2 marks · Short answer

How does the key layout of an online virtual keyboard differ from that of an operating-system on-screen keyboard, and why does this difference make keystroke capture harder? (2 marks)

Answer

1. Key layout – Operating-system on-screen keyboards use a fixed QWERTY layout; online virtual keyboards randomise their key layout every time they are used.
2. Keystroke capture – Sophisticated keylogger software can exploit fixed ordering; random ordering makes it very difficult for a keylogger to identify or record the keys pressed.

Q6. 5 marks · Long answer

Differentiate a worm from a virus in how it operates and replicates. Then explain how ransomware affects user data and seeks payment. (5 marks)

Full answer on SmartKalike: https://smartkalike.com/cbse/class-12/computer-science/security-aspects

Q7. 2 marks · Short answer

Define malware and give two examples of malware types. What resources or information can a computer virus harm? (2 marks)

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Q8. 5 marks · Long answer

Compare Trojans, spyware and adware. Explain how a Trojan spreads and may create a backdoor, what spyware collects, and how adware generates revenue and can expose users to unsafe links. (5 marks)

Full answer on SmartKalike: https://smartkalike.com/cbse/class-12/computer-science/security-aspects

Q9. 2 marks · Short answer

What is malware? Name any two common types of malware.

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Q10. 5 marks · Long answer

Explain how a virus inserts or copies its code into executable files and how it becomes active. Contrast its need for human triggering with the replication of a worm. (5 marks)

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