

**IM.Sc. (CSF) (NEP) Sem.-4 Examination
DSC-C-ICSF-241 T**

Cyber Security Fundamentals-II

Time : 2-00 Hours]

April-2025

[Max. Marks : 50

Question 1 Answer the following questions:

- i. Explain the need for cybersecurity in today's digital world with suitable examples. 5Marks
- ii. Describe different types of cyberattacks such as malicious code, brute force, and timing attacks. 5Marks

OR

- i. What are sniffers? How do they work, and what are the countermeasures against them? 5Marks
- ii. What are timing attacks, and how do they exploit system vulnerabilities? 5Marks

Question 2 Answer the following questions:

- i. Describe Cross-Site Scripting (XSS) and how it can be mitigated. 5Marks
- ii. Explain the different types of malwares and how they propagate. 5Marks

OR

- i. How does SQL Injection work? What are some techniques to prevent it? 5Marks
- ii. Discuss how XSS attacks are performed and the ways to secure applications from them. 5Marks

Question 3 Answer the following questions:

- i. Explain the Linux architecture and its key security features. 5Marks
- ii. How does Linux handle process management? Provide an example. 5Marks

OR

- i. How do Linux filters and AWK commands help in security analysis? 5Marks
- ii. Explain the Linux Bash scripting techniques for automating security tasks. 5Marks

Questions 4 Answer the following questions:

- i. How does quantum cryptography enhance security against cyber threats? 5Marks
- ii. What are the major cybersecurity challenges in IoT and Edge Computing? 5Marks

OR

- i. How does AI help in detecting and preventing cyber threats? 5Marks
- ii. Explain the Zero Trust Security Model and its importance. 5Marks

Questions 5: Attempt any Ten out of Twelve.

10 Marks

1. What is CIA Triad?
2. What is computer security?
3. List two common threats in cybersecurity.
4. Define cybersecurity.
5. Mention one technique to prevent phishing attacks.
6. Define stack overflow.
7. Name one Unix tool used for security.
8. Define Linux I/O redirection.
9. Name machine learning techniques used in cybersecurity.
10. What is privacy-preserving technology?
11. Define quantum cryptography.
12. What is one benefit of blockchain in cybersecurity?

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