

Master's degree program in Computer System Information Security

LIST OF EXAMINATION QUESTIONS

Part 1

1. Modern concept of information security.
2. Classification of sensitive data. Confidentiality, sensitivity.
3. Criteria of information technology security assessment.
4. Types of information security.
5. Basic concepts of information security. Confidentiality, integrity, availability.
6. Laws and regulations in the field of information security (international documents).
7. Computer network models.
8. Computer networks. TCP/IP stack. IPsec protocol.
9. Data storage and processing systems.
10. Databases. Types of relations. Normalization. Management systems.
11. Data structures. Sorting and searching algorithms.
12. Programming languages. Types and differences.
13. Virtualization and Cloud Computing: types and techniques.

Part 2

1. Computer systems security vulnerabilities, threats and attacks.
2. Core concepts of access control. Identification, authentication, authorization.
3. Types of authenticating information. Advantages and disadvantages. Two-factor authentication.
4. Security and access control models.
5. Channels and methods of unauthorized access. Protecting information from unauthorized access.
6. Malware and antivirus software.
7. Information security risks.
8. Encryption. Symmetric key and public key.
9. Modern cryptographic standards.
10. Network security. Firewalls.
11. Network security. SSL/TLS.
12. Vulnerabilities detection methods and tools.
13. Intrusion detection systems.