

# **Questions to prepare for the candidate's test on the discipline “Fundamentals of Information Technology”**

## **Topic 1.**

1. What is information and information technology.
2. Purpose and General structure of the information system.
3. Classification of information systems.
4. The standards for building information systems

## **Topic 2.**

1. Classification of information technology (IT) hardware.
2. Classification of computers.
3. Classification of personal computers.
4. Processor: purpose and characteristics.
5. Types and purpose of the internal memory of the computer.
6. Types of computer external memory.
7. The composition of the standard set of personal computer.
8. Peripherals of a personal computer.

## **Topic 3.**

1. What is software?
2. Classification of software.
3. Setting of system software.
4. Setting of application software.
5. Setting of instrumental software.
6. What operating system?
7. Functions of the operating system.
8. Classification of the operating systems.
9. Examples of the operating systems.
10. What software products do behave to service?
11. Classification of application software.
12. Classification of instrumental software.

## **Topic 4.**

1. The concept of computer network.
2. Classification of computer networks.
3. Switching methods in networks.
4. Trends in the development of computer networks.
5. Standardization of networks. Interface, Protocol, and Stack concepts.

## **Topic 5.**

1. The functionality of DBMS.
2. Language and software DBMS.
3. Architecture of DBMS.
4. The functions of the database.
5. Classification of DBMS.
6. DBMS performance indicators.
7. The modes of operation of user in the DBMS.
8. Directions of development of the DBMS

## **Topic 6.**

1. Basic concepts of information security
2. Encryption of information.
3. Electronic digital signature.

## **Topic 7.**

1. Basic concepts and definitions.
2. Basics of system analysis.
3. Types of system modeling.
4. Stages of system research (simulation).
5. Qualitative and quantitative modeling methods
6. Models in economics.
7. Methods of cognitive (cognitive) modeling
8. Business process modeling.
9. Numerical methods.

## **Topic 8.**

1. What is computational experiment?
2. Classification of optimization methods.
3. What is expert system?
4. Examples of expert system.
4. What is decision support system?
5. Examples of decision support system.
6. What is a structured (formalized) task?
7. What is a semi-structured problems?
8. What is an unstructured (non-formalized) task?