



UNIT-1: Introduction
Theory Assignment

Q.1 Choose the correct option: (1 Mark each)

1. Which of the following is not a component of a computer system?
 - a) Input devices
 - b) Output devices
 - c) Operating system
 - d) Arithmetic Logic Unit
2. Which of the following is a goal of an operating system?
 - a) Efficient resource allocation
 - b) User interface
 - c) File management
 - d) All of the above
3. Batch processing is a technique used in operating systems to:
 - a) Execute jobs without any user interaction
 - b) Provide a time-sharing environment
 - c) Support real-time processing
 - d) Manage multiple processes simultaneously
4. Real-time operating systems are used in applications that require:
 - a) High performance and parallel processing
 - b) Real-time response and predictable timing
 - c) Distributed computing and network communication
 - d) Batch processing and data analysis
5. Which of the following is not an example of a real-time operating system?
 - a) Windows
 - b) Linux
 - c) VxWorks
 - d) QNX
6. The main objective of an operating system is to:
 - a) Provide an interface between the user and the hardware
 - b) Manage system resources efficiently
 - c) Ensure data security and integrity
 - d) All of the above

Q.2 Answer the following Questions:

(2/3 Marks each)

1. What is an operating system?
2. Name three major components of a computer system.
3. What are the goals of an operating system?
4. Explain the concept of computer system architecture.
5. What are the basic functions of an operating system?
6. Describe the concept of time sharing.
7. What is the role of a device driver in an operating system?
8. What is the role of an interrupt in an operating system?
9. What is the purpose of a command-line interface in an operating system?
10. What is a system call interface?

Q.3 Answer the following Questions in detail:

(4/5 Marks each)

1. Describe the concept of time sharing and how it is implemented in operating systems.
2. Describe the role of device management in an operating system and the challenges involved.
3. Explain the concept of real-time operating systems and their importance in time-critical applications.
4. Explain distributed operating systems, evaluating their characteristics, advantages, and limitations in terms of scalability and fault tolerance.