M1R5 IT Tools & Business Systems

Chapter 2: Introduction to Operating System

Topics Reference Guide | April 15, 2026

Chapter Summary

Total Topics: 1
Book: M1R5 – Information Technology Tools and Network Basics
Course: O Level Exam Preparation (MCQs + PDFs)

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1 Operating System

An Operating System is a collection of programs that manages computer hardware resources and provides common services for computer programs. It handles everything from recognizing input from your keyboard to sending output to your monitor and keeping track of files on your drive.

Key Points:

1. Core Functions of an OS

For the exam, you should remember these five primary responsibilities:

- **Processor Management:** Decides which process gets the processor when and for how much time (Scheduling).
- **Memory Management:** Tracks every byte of primary memory and manages the allocation/deallocation of RAM to programs.
- **File Management:** Organizes data into directories and folders for easy navigation and permanent storage.
- **Device Management:** Manages device communication via their respective drivers (e.g., printer drivers).
- **Security:** Prevents unauthorized access to programs and data using passwords and encryption.

2. Types of Operating Systems

- **Batch OS:** Similar jobs are grouped together and executed as a batch (used in older systems).
- **Multitasking/Time-sharing:** Allows multiple tasks to run "simultaneously" by switching the CPU between them very quickly (e.g., Windows 11).
- **Real-Time OS (RTOS):** Used where time requirements are very strict, such as in missile systems or air traffic control.
- **Network OS:** Runs on a server and provides the capability to manage data, users, and security

across a network (e.g., Windows Server).

- **Mobile OS:** Specifically designed for handheld devices like smartphones (e.g., Android, iOS).

3. User Interface Types

The way you interact with an OS has evolved:

- **CLI (Command Line Interface):** The user types text-based commands (e.g., MS-DOS, Linux Terminal).
- **GUI (Graphical User Interface):** The user interacts using icons, menus, and pointers (e.g., Windows, macOS). This is the standard for modern IT gadgets.

4. Popular Examples (2026 Context)

- **Desktop:** Windows 11/12, macOS, Linux (Ubuntu/Mint).
- **Mobile:** Android 16, iOS 19.
- **Open Source:** Linux is the primary example of an open-source OS, which is a frequent MCQ topic in M1-R5.