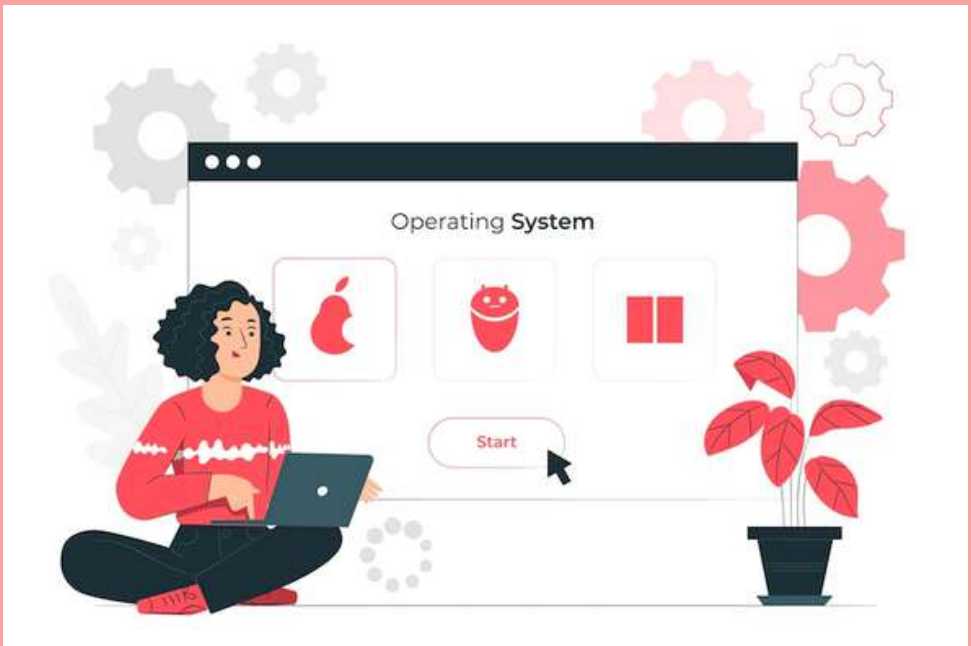
FREE EBOOK

oliveboard

OPERATING SYSTEMS

PHASE-II STUDY NOTES
FOR NABARD GR. A IT OFFICER EXAM



Operating Systems

Phase-II Study Notes for NABARD Gr. A IT Officer Exam

What is an Operating System?

- An operating system is the most important software that runs on a computer.
- An Operating System (OS) is software that acts as an interface between computer hardware components and the user.
- It manages the computer's memory and processes, as well as all of its software and hardware.
- It also allows you to communicate with the computer without knowing how to speak the computer's language.
- Every computer system must have at least one operating system to run other programs.
- Applications like Browsers, MS Office, Notepad Games, etc., need some environment to run and perform their tasks.
- The OS helps you to communicate with the computer without knowing how to speak the computer’s language.
- It is not possible for the user to use any computer or mobile device without having an operating system.
- Without an operating system, a computer is useless.

Types of Operating Systems

- Operating systems usually come pre-loaded on any computer you buy. Most people use the operating system that comes with their computer, but it's possible to upgrade or even change operating systems.
- The three most common operating systems for personal computers are Microsoft Windows, macOS, and Linux.
- Modern operating systems use a graphical user interface, or GUI (pronounced gooey).

- A GUI lets you use your mouse to click icons, buttons, and menus, and everything is clearly displayed on the screen using a combination of graphics and text.
- An Operating System (OS) is an interface between a computer user and computer hardware.
- An operating system is software which performs all the basic tasks like file management, memory management, process management, handling input and output, and controlling peripheral devices such as disk drives and printers.
- Some popular Operating Systems include Linux Operating System, Windows Operating System, VMS, OS/400, AIX, z/OS, etc.

Functions of an Operating System

1. Memory Management

- Memory management refers to the management of primary memory or main memory.
- Main memory is a large array of words or bytes where each word or byte has its own address.
- Main memory provides fast storage that can be accessed directly by the CPU. For a program to be executed, it must be in the main memory.
- An Operating System does the following activities for memory management –Keeps track of primary memory, i.e., what parts of it is in use by whom, and what part are not in use.
- In multiprogramming, the OS decides which process will get memory when and how much.
- Allocates the memory when a process requests it to do so.
- De-allocates the memory when a process no longer needs it or has been terminated.

2. Processor Management

- In a multiprogramming environment, the OS decides which process gets the processor when and for how much time. This function is called process scheduling.