# PGCET - Computer Awareness Notes (Operating System)

Operating System (OS) - Notes for PGCET

What is an Operating System?

An Operating System is a system software that manages hardware and software resources of a computer and provides an interface for the user to interact with the system.

Functions of Operating System:

- Process Management: Handles creation, scheduling, and termination of processes.

- Memory Management: Allocates and deallocates memory to programs.

- File Management: Manages data files - read/write, create/delete.

- Device Management: Controls I/O devices like mouse, keyboard, printer.

- Security: Prevents unauthorized access.

- User Interface: CLI (Command Line) or GUI (Graphical).

Types of Operating Systems:

- Batch OS: Jobs grouped together without user interaction. (Ex: Early IBM OS)

- Time-Sharing OS: Each user gets a time slot to use CPU. (Ex: UNIX, Multics)

- Distributed OS: Multiple systems connected and share resources. (Ex: LOCUS)

- Network OS: OS that manages networked computers. (Ex: Windows Server, Linux)

- Real-Time OS: Provides output within strict time limits. (Ex: RTLinux, VxWorks)

- Mobile OS: Designed for mobile devices. (Ex: Android, iOS)

Important Terminologies:

- GUI: Graphical User Interface

- CLI: Command Line Interface

- Kernel: Core component of OS; controls all system operations

- Multitasking: Running multiple programs at once

- Multiprocessing: Use of more than one CPU

Most Expected Questions (PGCET Style):

1. What is the role of an OS?

2. Which is not a function of OS?

3. Examples of Real-Time OS?

4. Difference between Batch and Time-Sharing OS?

5. Full forms: GUI, RTOS, CLI

Bonus: Full Forms to Remember

- OS: Operating System

- GUI: Graphical User Interface

- CLI: Command Line Interface

- RTOS: Real-Time Operating System

- BIOS: Basic Input Output System