

Definitions:

1. **Hardware:** Provides basic computing resources (CPU, memory, I/O devices).
2. **Operating System:** Manages the use of the hardware among the various application programs for the various users and provides the user a relatively simple machine to use.
3. **Applications Programs:** Define the ways in which system resources are used to solve the computing problems of the users (compilers, database systems, video games, business programs).
4. **Users:** Include people, machines, other computers.

Short Question Answers:

1. What is the primary purpose of a computer system?
 - The primary purpose of a computer system is to generate executable programs and execute them.
2. What are the main issues involved in performing the tasks of a computer system?
 - The main issues involved in performing the tasks of a computer system include storing an executable on a secondary storage device, loading executable from disk into the main memory, setting the CPU state appropriately so that program execution could begin, and creating multiple cooperating processes.
3. What services does the operating system provide?
 - The operating system provides services such as managing secondary storage devices, managing primary storage, managing processes, and allowing a user to manage his/her files and directories properly.

MCQs:

1. What does an Operating System do?
 - ☐ Manages the use of the hardware among the various application programs
 - ☐ Provides the user a relatively simple machine to use
 - ☐ Both A and B (**Correct Answer**)
 - ☐ None of the above
2. What is the primary purpose of a computer system?
 - ☐ To generate executable programs
 - ☐ To execute programs
 - ☐ Both A and B (**Correct Answer**)
 - ☐ None of the above
3. What services does the operating system provide?
 - ☐ Managing secondary storage devices
 - ☐ Managing primary storage
 - ☐ Managing processes
 - ☐ All of the above (**Correct Answer**)

Operating System:

1. **Operating System (Top-Down View):** A program that acts as an intermediary between a user of a computer and the computer hardware, and makes the computer system convenient to use.
2. **Operating System (Bottom-Up View):** A resource manager who manages the hardware and software resources in the computer system.
3. **Operating System (Alternative View):** A control program that manages the execution of user programs to prevent errors and improper use of a computer.

Short Question Answers:

1. What is an Operating System from a top-down view?
 - From a top-down view, an Operating System is a program that acts as an intermediary between a user of a computer and the computer hardware, and makes the computer system convenient to use.
2. What is an Operating System from a bottom-up view?
 - From a bottom-up view, an Operating System is a resource manager who manages the hardware and software resources in the computer system.
3. What is an alternative view of an Operating System?
 - An alternative view of an Operating System is that it's a control program that manages the execution of user programs to prevent errors and improper use of a computer.

MCQs:

1. What does an Operating System do from a top-down view?
 - ☐ Acts as an intermediary between a user of a computer and the computer hardware
 - ☐ Makes the computer system convenient to use
 - ☐ Both A and B (**Correct Answer**)
 - ☐ None of the above
2. What does an Operating System do from a bottom-up view?
 - ☐ Manages the hardware resources in the computer system
 - ☐ Manages the software resources in the computer system
 - ☐ Both A and B (**Correct Answer**)
 - ☐ None of the above
3. What does an Operating System do from an alternative view?
 - ☐ Manages the execution of user programs
 - ☐ Prevents errors and improper use of a computer
 - ☐ Both A and B (**Correct Answer**)
 - ☐ None of the above