

What components handle the coordination of processes in an operating system's kernel?

- a. File manager and memory manager
- b. Scheduler and dispatcher
- c. Process table and memory area
- d. Interrupt handler and timer circuit

Correct Answer: b. Scheduler and dispatcher

What information is stored in the process table by the scheduler?

- a. User's name and password
- b. Process's priority and memory area
- c. Mass storage operation status
- d. Time slice duration

Correct Answer: b. Process's priority and memory area

When is a process considered "waiting" according to the paragraph?

- a. When it is in a state where progress can continue
- b. When it is waiting for a time slice
- c. When it is in a state of suspension
- d. When it is interrupted by another process

Correct Answer: c. When it is waiting for an external event

What initiates the end of a time slice in a time-sharing/multitasking system?

- a. Process completion
- b. User intervention
- c. Timer circuit generating an interrupt
- d. Dispatcher's decision

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Correct Answer: c. Timer circuit generating an interrupt

What is the procedure called when changing from one process to another in a time-sharing system?

- a. Process termination
- b. Process initiation
- c. Time slice completion
- d. Process switch or context switch

Correct Answer: d. Process switch or context switch

Which component of the CPU is responsible for reacting to interrupt signals?

- a. Memory manager
- b. Scheduler
- c. Interrupt handler
- d. Dispatcher

Correct Answer: c. Interrupt handler

What is the primary purpose of a semaphore in an operating system?

- a. Controlling access to printer devices
- b. Managing process priorities
- c. Enabling multitasking
- d. Preventing memory overflows

Correct Answer: a. Controlling access to printer devices

How is deadlock defined in the paragraph?

- a. When a process is interrupted
- b. When two processes compete for resources
- c. When a process cannot complete its task
- d. When resources are requested partially and cannot be forcibly retrieved

Correct Answer: b. When two processes compete for resources

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What are the conditions that must be satisfied for deadlock to occur?

- a. 1 and 2
- b. 2 and 3
- c. 1, 2, and 3
- d. None of the above

Correct Answer: c. 1, 2, and 3

What is the technique called when non-sharable resources are made to appear sharable in an operating system?

- a. Spooling
- b. Multiprogramming
- c. Deadlock detection
- d. Privilege mode

Correct Answer: a. Spooling

What is the role of auditing software in computer security?

- a. Allocating resources to processes
- b. Detecting unauthorized access
- c. Managing memory limits
- d. Controlling printer access

Correct Answer: b. Detecting unauthorized access

What is the term used to describe the situation in which an intruder tricks the operating system into allowing access beyond a user's privileges?

- a. Privilege escalation
- b. Memory limit override
- c. Resource allocation
- d. Deadlock

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Correct Answer: a. Privilege escalation

How is a CPU typically switched between privileged and non-privileged modes?

- a. Using interrupt signals
- b. With a "change privilege mode" instruction
- c. By the operating system administrator
- d. Automatically at system startup

Correct Answer: b. With a "change privilege mode" instruction

What can a single flaw in privilege level control lead to?

- a. Unauthorized access to printer devices
- b. Increased memory limits
- c. Disaster from malicious programming or errors
- d. Improved resource allocation

Correct Answer: c. Disaster from malicious programming or errors

Which component is NOT mentioned as being responsible for allocating resources in the operating system?

- a. File manager
- b. Memory manager
- c. Dispatcher
- d. Scheduler

Correct Answer: c. Dispatcher

What information is stored in a process entry in the process table?

- a. User's name and password
- b. Priority of the process and memory area
- c. Keyboard input data
- d. Execution time of the process

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Correct Answer: b. Priority of the process and memory area

What is the primary purpose of an interrupt handler in the CPU?

- a. Allocating resources to processes
- b. Responding to external events and signals
- c. Managing printer access
- d. Controlling process priorities

Correct Answer: b. Responding to external events and signals

How does the CPU handle an interrupt signal?

- a. It immediately resumes the interrupted task.
- b. It saves its position in the current process and starts executing an interrupt handler.
- c. It ignores the interrupt and continues with the current task.
- d. It terminates the current process.

Correct Answer: b. It saves its position in the current process and starts executing an interrupt handler.

What is the term for the procedure of changing from one process to another in a time-sharing system?

- a. Process termination
- b. Time slice completion
- c. Process switch or context switch
- d. Process initiation

Correct Answer: c. Process switch or context switch

How are multiprogramming CPUs designed to save a process's state when interrupted?

- a. By immediately resuming the interrupted task
- b. By storing the process's state in a separate memory area
- c. By using machine-language instructions for state reloading
- d. By creating a new process entry in the process table

Correct Answer: c. By using machine-language instructions for state reloading

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