 **Definition of RTOS:** A real-time operating system must service tasks within their deadline periods.

 **Hard vs. Soft RTOS:** Hard real-time OS has less jitter compared to a soft real-time OS.

 **Interrupt Latency:** Interrupt latency in RTOS should be minimal.

 **Rate Monotonic Scheduling:** Shorter duration jobs have higher priority.

 **CPU Time Allocation:** Proportional share scheduling ensures a certain amount of CPU time is allocated to each process.

 **Priority Inversion:** Solved using priority inheritance protocol.

 **Dispatch Latency:** Time required to stop one process and start another.

 **Context Switch Time:** The time taken to switch from one thread context to another.

 **Examples of RTOS:** RTLinux, VxWorks, and Windows CE.

 **VxWorks Microkernel:** Built around the Wind microkernel.

 **Real Addressing Mode:** Lacks memory protection between processes.

 **Preemptive Scheduling:** Guarantees hard real-time functionality.

 **Event Latency:** The time between an event occurrence and when it is serviced.

 **Interrupt Latency:** Time taken from the occurrence of an event to the start of an interrupt service routine.

 **Dispatch Latency:** Time required to stop one process and start another.

 **Priority Inversion:** Resolved using the priority inheritance protocol.

 **Kernel Types:** RTOS may use preemptive or non-preemptive kernels.