

Multiple Choice Questions

- 8.1 Identify which of these are real-time applications scenarios:
- An on-line bus ticketing system
 - Printing of annual report of a company's annual report
 - Reconciling a day's transactions in an account book of a small company
 - An aircrafts' yaw control system
- 8.2 Identify the category of the following real-time systems as "hard, soft or firm"
- An on-line celebrity cricket bat auction
 - A patient monitoring system in an ICU
 - A library book reservation system
 - A bank's credit card defaulters notice generation program
- 8.3 Which of the following describes the RTOS design philosophy best
- Maximize the throughput of the system
 - Maximize the processor utilization
 - Minimizing the response time
 - Response within certain stipulated time period
- 8.4 Which of the following are commercially claimed RTOSs
- Linux
 - Windows CE
 - Mindows NT
 - Vx works
 - Sun Solaris
- 8.5 Scheduling of tasks is a very important consideration in RTOS. Which of the following best described the scheduling policy design:
- The scheduler must follow a pre-emptive policy
 - The scheduler must not use pre-emptive policy option
 - The scheduler must not only use pre-emptive policy options with the priority considerations.
 - The scheduler must not use pre-emptive policy option, but must employ priority consideration.
- 8.6 Keeping a task's schedulability in mind, which way a task may be scheduled:

- a. The task has a predetermined time after which it may be scheduled.
- b. The task has a predetermined time before which it may be scheduled
- c. The task has a predetermined time interval during which it must be scheduled any time.
- d. The task start has a worst case delay estimate before which it must be scheduled.

8.7 Describe which of these scheduling policies is most suited for controlling a set of periodic tasks.

- a. FCFS
- b. Least laxity first
- c. Earliest dead line first
- d. Rate monotonic policy schedule

8.8 Which of the following strategy is employed for overcoming the priority inversion problem?

- a. Abandon the notion of priorities altogether
- b. Have only two priority levels
- c. Allow for temporarily raising the priority of lower level priority process
- d. Use pre-emptive policies strictly based on priorities

8.9 Is it true that, in general, in an embedded system the application tasks have higher priority than system tasks?

- a. Yes
- b. No

8.10 Where are the device drivers located in RTOSs with a microkernel:

- a. In the kernel space
- b. In the user space
- c. In separately allocated space which is neither kernel space nor user space.