Multiple Choice Questions

8.1 Identify which of these are real-time applications scenarios:
   a. An on-line bus ticketing system
   b. Printing of annual report of a company’s annual report
   c. Reconciling a day’s transactions in an account book of a small company
   d. An aircrafts’ yaw control system

8.2 Identify the category of the following real-time systems as “hard, soft or firm”
   a. An online celebrity cricket bat auction
   b. A patient monitoring system in an ICU
   c. A library book reservation system
   d. A bank’s credit card defaulters notice generation program

8.3 Which of the following describes the RTOS design philosophy best
   a. Maximize the throughput of the system
   b. Maximize the processor utilization
   c. Minimizing the response time
   d. Response within certain stipulated time period

8.4 Which of the following are commercially claimed RTOSs
   a. Linux
   b. Windows CE
   c. Windows NT
   d. Vx works
   e. Sun Solaris

8.5 Scheduling of tasks is a very important consideration in RTOS. Which of the following best described the scheduling policy design:
   a. The scheduler must follow a pre-emptive policy
   b. The scheduler must not use pre-emptive policy option
   c. The scheduler must not only use pre-emptive policy options with the priority considerations.
   d. 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.