<u>TUTORIAL SEVEN</u>

<u>Real-Time OS and Virtualization</u>

1.   Indicate whether the following statements are true or false. Justify your answers.

    a)   Real-time CPS applications usually require a response within a very short time.

    b)   EDF scheduler has poor deadline predictability under overload conditions.

    c)   A guest OS abstracts H/W and provides an interface between H/W and hypervisor.

    d)   Managing the interactions between a guest OS and its applications is one of the key functions of a hypervisor.

    e)   Under a Type-1 para-virtualized hypervisor, the hypervisor directly interacts with the H/W and provides a virtual call API to interact with the guest OS.

2.   Consider the following set of periodic real-time processes:

    P_1<5, 2, 5> P_2<10, 3, 10> P_3<20, 5, 20>

    Construct **all possible** schedules for this process set under the earliest deadline first (EDF) scheduling strategy. Is this process set **schedulable** under EDF?

3.   Consider the following set of periodic real-time processes:

    P_1<10, 4, 7> P_2<5, 2, 7> P_3<10, 2, 10>

    Construct **all possible** schedules for this process set under the deadline monotonic (DM) scheduling strategy. Is this process set **schedulable** under DM?