**Real Time System**

**Assignment No: 1**

1. State whether the following statements are TRUE or FALSE. Justify your answer.
   1. A hard real time application consists of only hard real‐time tasks.
   2. Every safety critical real time system contains a fail-safe state.
   3. A deadline constraint between two stimuli is a behavioral constraint on the environment of the system.
   4. A good algorithm for scheduling of hard real time tasks tries to
   5. All hard real time systems usually are safety critical in nature.
   6. Soft real time tasks do not have any associated time bounds.
2. What is the difference between a performance constraint and a behavioral constraint in a real‐time system?
3. What is understood by jitter associated with a periodic task? Mention techniques by which jitter can be overcome.
4. Explain real time application with its working mechanism and use if any block diagram.(it must include one each of soft and hard real time system)
5. Give two different explanation of why the periodic tasks (2,1), (4,1) and (8,2) are schedulable by the rate monotonic algorithm
6. Consider a set of jobs J(r, d) with the release time and the deadline. The precedence constraints are shown as in the graph below. Derive the formula of calculating the effective release time and deadline. Calculate the effective release time and deadline for each job in the set.

