

### *Set for Team 45*

**Construct the necessary truth table(s), Boolean functions and Simulation file with the appropriate IC diagram comprising the basic logic gates that represent the following scenario:**

Inside a cooling system of a power plant, suppose there are 4 compartments; 3 of which contain a humidity sensor each, and the other compartment contains air cooling system that decreases the humidity. The cooling system gives emergency alarm if the humidity of any sensor raises beyond a threshold value **AND** the corresponding air-cooling compartment do not start functioning at once. The air-cooling compartment can cool down any of the compartments that contain those humidity sensors. What do you think how the logic was developed to build such a monitoring system with a Boolean function and with respective truth table that represent the scenario?