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**Manual:**

Start the experiment with some default values of initial displacement ( $u=10\text{mm}$ ) and initial velocity ( $v=5\text{m/s}$ ). and zero damping. Pause the experiment after a few cycles.

**Observation 1:**

1. Observe the time period (T) and amplitude.
2. Again start the experiment freshly, this time modifying the values of initial conditions.
3. Observe that the time period is independent of initial conditions.

**Observation 2:** Effect of structures properties on time period

1. Modify the value of mass and observe the change in time period.
2. Run the experiment for different values of mass and note the time period every time mass is changed
3. Draw the graph between mass and time period.
4. Repeat the same with stiffness.
5. Change the structures stiffness (i.e., change column size) and observe the affect on time period.
6. Run the experiment for different values of stiffness and note the time period every time stiffness is changed.
7. Draw the graph between stiffness and time period.
8. Again start the experiment this time modifying the values of building parameters and initial conditions.

**Observation 3:**

1. Add damping to the system (i.e., 5%) and run the experiment .
2. Observe the effect of damping on time period and amplitude.
3. Run the experiment for different values of damping and note the time period every time damping is changed.
4. Draw the graph between damping and time period.

**Observation 4:**

1. Add damping to system (i.e., 5%) and run the experiment.
2. Run the experiment and stop after few cycles.

3. Note the values of displacement on consecutive troughs and check the value of damping by logarithmic decrement formula.