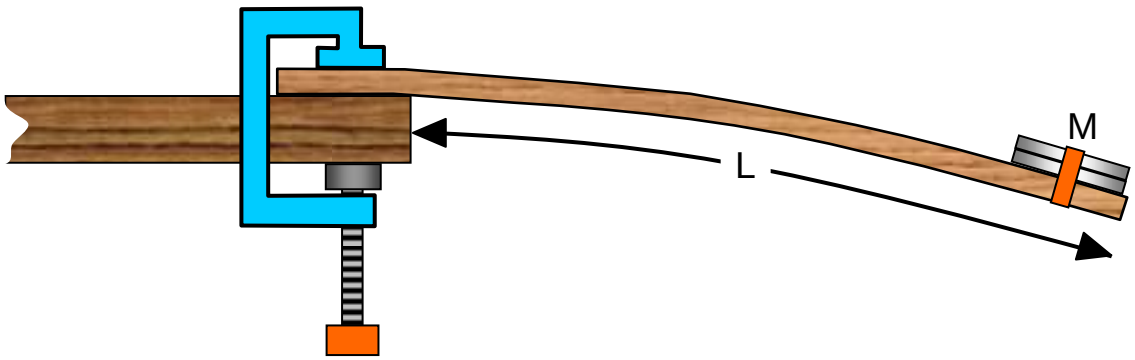
Exp.No.9: To investigate how the time of vibration of a Cantilever varies with the masses on the load

AIM:
The aim of this experiment is to investigate the time of vibration of a cantilever varies with the mass vibrating with fixed length.



YOU WILL NEED:
A G clamp, a metre ruler, a set of slotted masses (0 – 1 kg), a stopwatch, a pencil or biro, a rubber band

WHAT TO DO:
The apparatus is set up as shown with one end securely clamped to the bench. Do not the load beam too greatly. Fix the length of the free end of the cantilever at 80 cm.

Make measurements of the period of oscillation (T) over a range of mass (M) of fixed length. Record the data in the table below :

Mass M gm	T1 for 10 vibration sec	T2 for 10 vibration sec	Mean T	T for one vibration	Ln (T) sec	Ln (M) gm
100						
200						
300						
400						
500						
600						

ANALYSIS AND CONCLUSIONS:
Plot a graphs, of LnT on Y-axis against Ln M on X-axis. Determine the slope.Explain.