Density of material of sonometer string ρ = ……………….. kg/m^3.   (being …………….. wire)

$\therefore mass\ per\ unit\ length\ of\ the\ string, \mu$ = …………………….Kg/m.

Observation Table:
- **For the determination of frequency of AC mains:**

S.N.	Mass of suspended load $M\ (Kg)$	Tension on the String $T = Mg\ (N)$	Resonating length $l\ (m)$	Frequency of ac mains $f = \dfrac{1}{2l}\sqrt{\dfrac{T}{\mu}}$	Mean $f\ (Hz)$	Remarks
1.						
2.						
3.						
4.						
5.						

CALCULATIONS:

From above table,

Frequency of ac mains, f = … … … Hz

PERCENTAGE ERROR:

Standard value of ac mains, f_s = … … … … Hz

Observed value of ac mains, f_o = … … … … Hz

Therefore, $\%\ error = \left|\dfrac{Standard\ value - observed\ value}{standard\ value}\right| \times 100\%$

= … … …

= … … … $\%$

RESULT:

The frequency of ac mains has been found to be … …. ... with error…………. .

CONCLUSION:

Thus, the frequency of ac mains is found by using sonometer.

SOURCES OF ERROR:
1. Error may be due to the kinks present in the wire.
2. Error may be due to improper contact of the wire and the bridges.
3. Error may be due to friction between the pulley and wire.
4. Error may be due to the confusion (or carelessness) on distinguishing the resonating length.
5. Error may be due to the error in the labelled mass of slotted loads.

PRECAUTIONS:
1. The suspended mass should be fixed (should not be oscillating) and should not touch the table.
2. The wire should be of uniform cross-section and kinks should be avoided.
3. The diameter of the wire should be measured at different points of the wire.
4. The bridges should be placed at the middle portion of the wire.
5. The string should be in proper contact with the bridges
6. Resonating length should be carefully identified.
7. The reading of the water level should be taken at the lower meniscus.