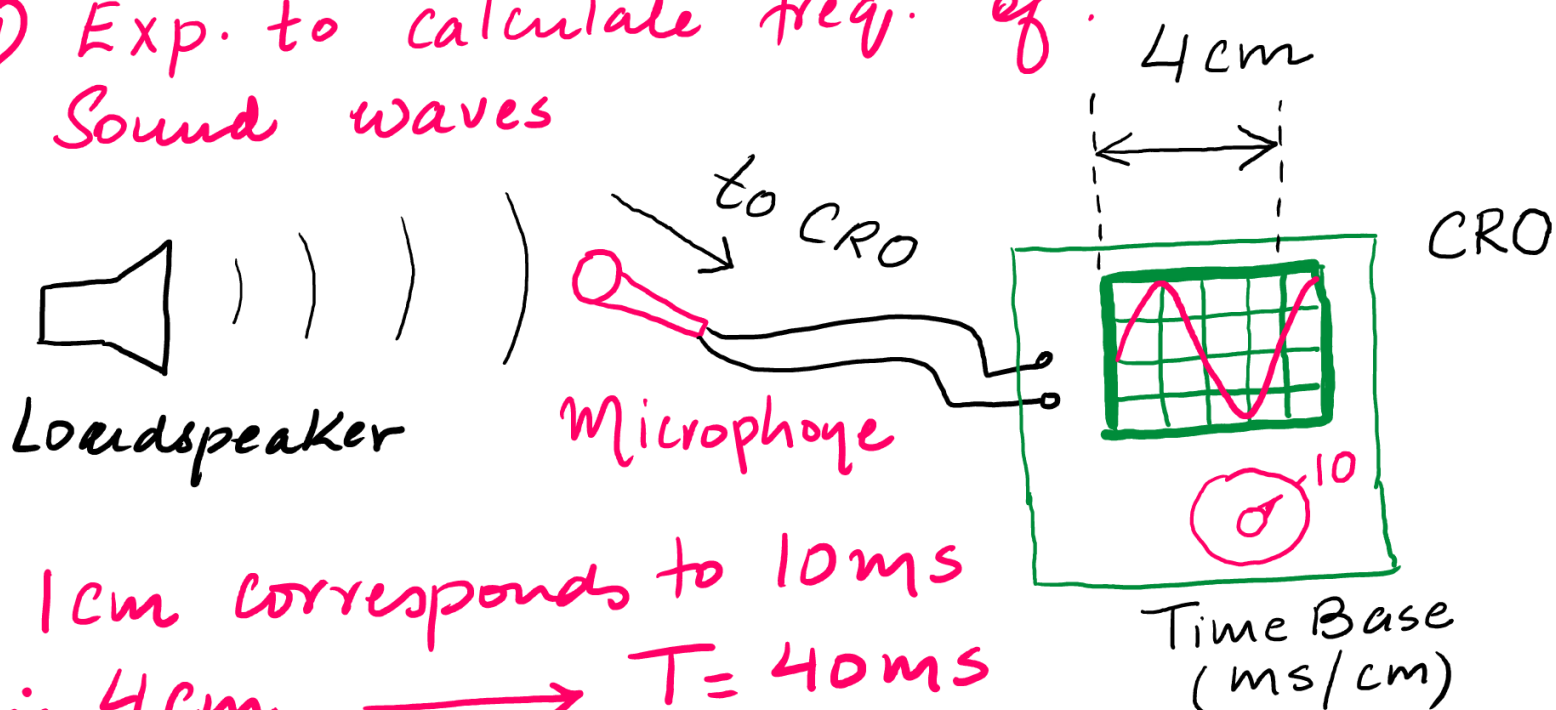


① Exp. to calculate freq. of Sound waves



1 cm corresponds to 10 ms
 $\therefore 4 \text{ cm} \longrightarrow T = 40 \text{ ms}$

$$f = \frac{1}{T} = \frac{1}{40 \times 10^{-3}} \quad \therefore \boxed{f = 25 \text{ Hz}}$$

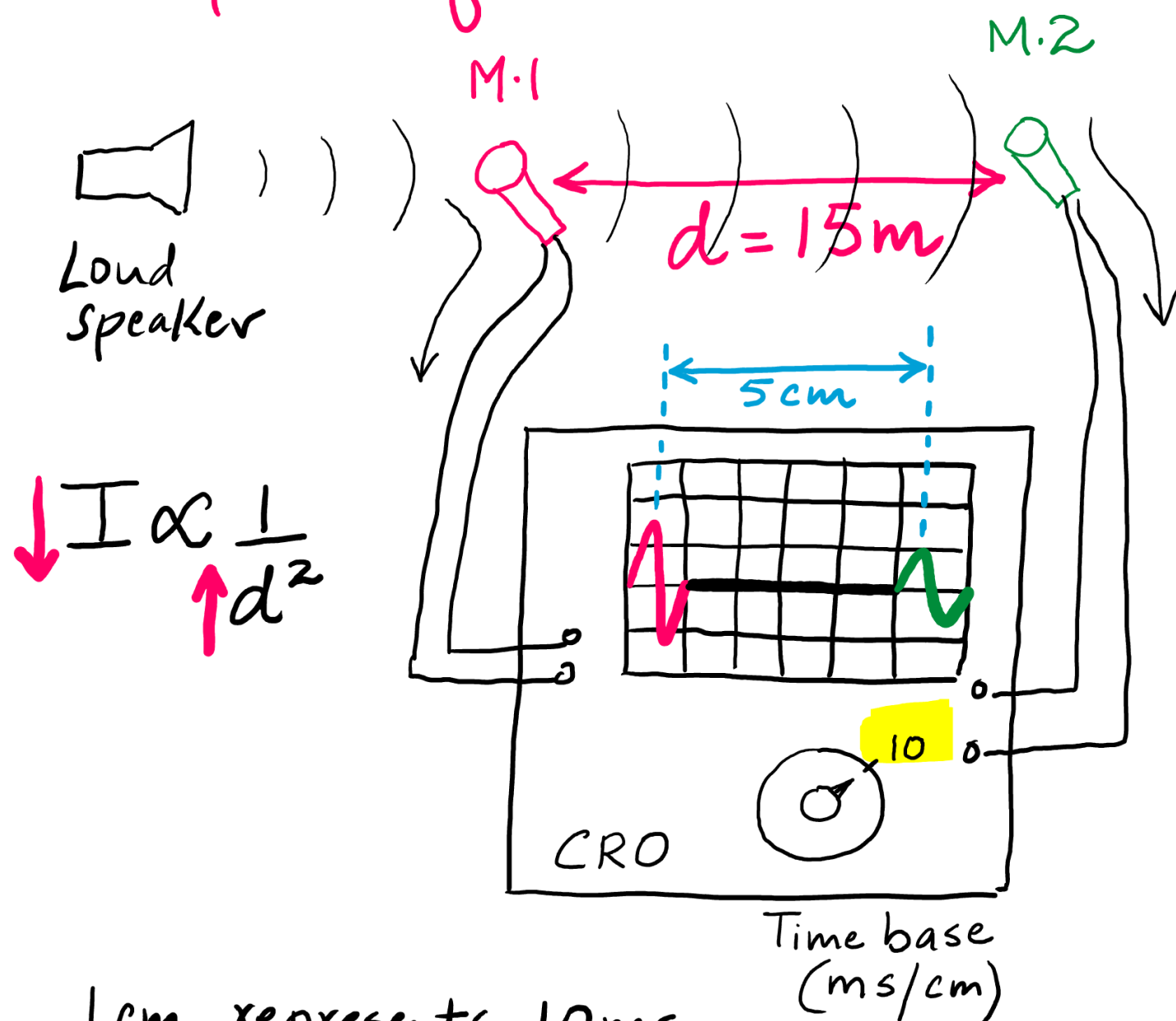
List of apparatus ::

Loudspeaker
 microphone
 C.R.O & connecting wire

Precautions ::

- freq. of source to remain constant
- Exp. to be conducted in a sound proof room.
- There must be "NO" echo

② Experiment to calculate the Speed of Sound.



1 cm represents 10 ms

5 cm represent 50 ms [time taken for sound to travel b/w M.1 and M.2]

$$\text{Speed} = \frac{\text{dist}}{\text{time}}$$

$$= \frac{15}{50 \times 10^{-3}} \quad \therefore \boxed{\text{speed} = 300 \text{ m/s}}$$

CONCEPT OF "DIFFRACTION"

definition :- The term diffraction refers to **spreading of waves** when they travel through a **narrow gap, small opening, slit or an aperture**. This is shown on the next slide.

- Experiments have shown that for significant diffraction to occur, the size of the gap/aperture/slit/opening must be comparable to the wavelength of the waves.
- Less diffraction occurs when the size of the gap is significantly larger as compared to the wavelength. This is also shown on the next slide.