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Paper-2
viscosity of gases :-

It may be defined as The resistance produced by the flow of one layer of gas to ^{another} layer of another gas.

This resistance produced between layers is called friction.

Let v_1, v_2, v_3 etc be the velocity of different layers of gas from bottom to top respectively.

So, $v_1 < v_2 < v_3 - \dots$

The flow of gas is of two types.

- (i) Turbulent flow :- when the flow is not in parallel planes then such flow is called turbulent flow.
- (ii) Laminar flow :- when the flow is in parallel to the plane then such flow is called laminar flow.

Let velocity difference between layers is Δv and dx is the small distance and A is a area of cross section.

$$f \propto A \times \frac{dv}{dx}$$

$$\frac{dv}{dx} = \text{velocity gradient}$$

$f = \eta A \times \frac{dv}{dx}$ where η is a proportionality constant known as Co-efficient of viscosity.