

## Previous year JEE questions 14

A bottle of dry ammonia and a bottle of dry hydrogen chloride connected through a long tube are opened simultaneously at both ends the white ammonium chloride ring first formed will be *(1988 - 1 Mark)*

- (a) at the centre of the tube.
- (b) near the hydrogen chloride bottle.
- (c) near the ammonia bottle.
- (d) throughout the length of the tube.

**(b) TIPS/Formulae :**

$$\text{Rate of diffusion} \propto \sqrt{\frac{1}{\text{Molecular mass}}}$$

$\therefore$  Molecular mass of HCl > molecular mass of  $\text{NH}_3$   
 $\therefore$  HCl diffuses at slower rate and white ammonium chloride is first formed near HCl bottle.