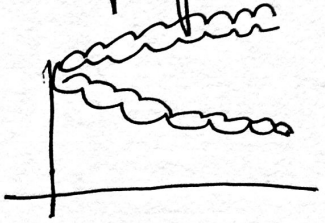
Q2

Lapse Rate : It refers to the rate of change of temperature or pressure with height.

- Ambient Lapse Rate : A balloon equipped with thermometer, when released it moves upwards, through the atmosphere and records the temperature of the ambient air.
This temperature gradient is known as ambient lapse rate and it varies from day to night and season to season.
Not only does water content modify lapse rates, but wind, sunlight on Earth's surface, and geographical features change actual lapse rate.
- DALR → The adiabatic lapse rate for a dry atmosphere, which may contain water vapours but which has no liquid moisture present in form of fog, droplets or clouds, is approx 9.8°c / 1000 m - There is no energy / heat exchange within the system or the surrounding.

- Three types of Plumes →

→ Looping ⇝ ALR > DALR



- Occurs in unstable atmosphere condition.
- High degree of convective turbulence.

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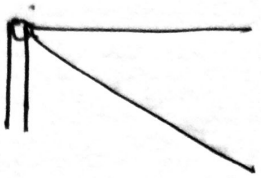
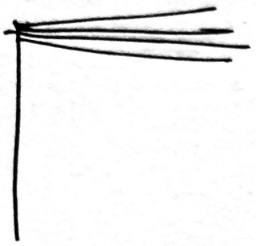
- Coning



→ Pollutant take long distance to travel before reaching the ground.
→ Neutral condition (ALR = DALR)
→ Stable with small scale turbulance.

- Fanning



→ Little pollution
→ Extremely stable condition
→ ALR < DALR
→ Little turbulance
→ Strong ~~distance above stack~~.
Inversion at a considerable distance above the stack.

(b) Decibel ⇒ Unit for expressing ratio b/w two physical quantities, usually amounts of acoustic or electric power or for measuring relative loudness of sound. One decibal = 10 time log power ratio

Difference b/w Sound Power and Sound pressure

- It is rate at which sound energy is emitted from a source per unit time whereas sound intensity is amount of energy flowing per unit time through a unit area that is perpendicular to direction in which sound wave travelling.

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