FAQs

1. Why is ventilation essential?

Few benefits of ventilation are:

1. To keep fresh air for respiratory system
2. To preserve oxygen level in the air
3. To control carbon dioxide
4. To control moisture level
5. To lower heat level
6. To remove dust and odors

2. What is natural ventilation and what are its types?

Natural ventilation is the use of wind and temperature differences to create airflows in and through buildings.

Effects of natural ventilation:

a) Buoyancy
b) Wind

- Buoyancy ventilation is more commonly referred to as temperature-induced or stack ventilation.
- Wind ventilation supplies air from a positive pressure through openings on the windward side of a building and exhausts air to a negative pressure on the leeward side.
- Airflow rate depends on the wind speed and direction as well as the size of openings.

3. How is ventilation requirement calculated?

- Requirements for an acceptable amount of fresh air supply in buildings will vary depending on the nature of occupation and activity.

- This is calculated by dividing the quantity of air by the room volume and multiplying by the occupancy.

$$\text{Air changes per hour} = \frac{\text{quantity of air x occupancy}}{\text{room volume}}$$

4. What is mechanical ventilation? what are its different systems?

- Mechanical ventilation systems circulate fresh air using ducts and fans rather then relying on airflow through windows.

- These systems employ an electrically driven fan or fans to provide the necessary air movement;

- They also ensure a specified air change and the air under fan pressure can be forced through filters. There are three types of mechanical ventilation systems:

a) Natural inlet and mechanical extract (exhaust system).
b) Mechanical inlet and natural extract
c) Mechanical inlet and extract

5. What are the benefits of mechanical ventilation?

- Better indoor air quality – can remove pollutants, allergens, and moisture that can cause mold problems

- More control – provide proper fresh air flow along with appropriate locations for intake and exhaust

- Improved comfort – allow a constant flow of outside air into the home and can also provide filtration, de-humidification, and conditioning of the incoming outside air.