H-Lo
9.12.21

Ex - II (Air and atmosphere)

6. Name the process which maintain the balance between oxygen and carbon dioxide in air. How is it done?

ans Respiration and combustion are the processes which maintain the balance between oxygen and CO_2 in the air.

- Respiration - Respiration is a chemical process that takes place in all living beings. In this process, oxygen present in the air reacts with the digested food material in the body. This results in the release of energy, carbondioxide and water.

Combustion — Burning or combustion is a process in which a substance reacts chemically with oxygen and gets oxidised with the release of energy in the form of heat and light. It is a fast process. During the process of burning, along with energy, carbon -

Dioxide and water vapour are also produced.

7. State two similarities and two differences between respiration and burning.

ans. Similarities.

- Respiration Burning

i) Oxygen is needed to combine with carbon and hydrogen

ii) CO_2 and H_2O are formed with release of energy.

- Respiration.

i) Oxygen is need to combine C with H_2 of food.

ii) CO_2 and H_2O are formed with release of energy.

iii) Differences

- Burning

i) It occurs at a higher temperature.

ii) It is a fast process.

- Respiration

i) It occurs at body temperature.

ii) Is a slow process.

8 Define rusting. What are two necessary conditions for rusting of iron. Give the chemical name of rust.

ans. Rusting :- Slow conversion of iron into its hydrated oxide in the presence of moisture and air is called rusting.

Conditions of rusting :

- Presence of moisture (water)
- Presence of oxygen (air)

Chemical name of rust is hydrated iron oxide.

$[Fe_2O_3 \cdot x H_2O]$

9. How air is useful to :

a) Water boats - Air helps movement of water boats.

b) Agriculture - Air speeds up drying up of agricultural products like grains, pulses, fruits, etc. Air helps in pollination of flowers and dispersal of seeds.

Windmills :-

c) Windmills work where sufficient movement of air.

d) Scooters and cars :- Air filled in tyres of cars move smoothly on road as there is less friction.

e) State the full form of LPG and CNG? How are the two different in the composition?

ans. LPG (Liquified petroleum Gas) - It is obtained from crude petroleum, oil. It mainly contains gaseous compound known as iso butane and butane. Popularly it is known as cooking gas. It is the best fuel for domestic purposes and in laboratories. It is available in cylinders. It also supplied through pipes in big cities.

CNG (Compressed Natural Gas) - It is produced along with crude oil. It mainly contains methane gas. It is a cheap fuel as well as pollution free. It is used as a substitute of petrol.

Difference in composition.

LPG is obtained from crude petroleum oil. It mainly contains gaseous compounds known as iso butane and butane. While.

CNG is produced along with coude oil. It mainly contains methane gas.

11. a) ~~What~~ Why is nitrogen important to all living ~~things~~ beings?

ans. Nitrogen consitutes 78% of air by volume It is of vital importance to the plants, animals and human beings as it is need to prepare vital nutrient 'protien' to every living being which is necessary for their growth.

b) What is nitrogen fixation?

ans Nitrogen cannot be absorbed directly by plants. It is first fixed up in the soil as nitrates and nitrites and ther absorbed by plants in soluble forms. The phenomenon is called nitrogen fixation.