

Water treatment & Analysis lec 04



Waste water & its characteristics

Waste water is 99.99 % water and 0.1% suspended or dissolved solids.

Characteristics of waste water

- It has unpleasant colour, odour may be gray ,black ,yellow or brown
- They contain pathogenic microorganisms
- It has hazardous matter such as heavy metals which are toxic
- Temperature of wastewater is higher.

Sewage :The wastewater from homes, washing & Industries is called Sewage

Sewage is defined as the liquid flowing in ditches.

Sewage has a Offensive odour due to evolution of Hydrogen sulphide gas.

Sewage treatment is to remove or change the harmful compound into less harmful compounds.

BOD and COD

Biochemical oxygen demand is the amount of oxygen required by aerobic microorganisms for biological breakdown of organic matter present in wastewater.

it measures extend of pollution of waste water, sewage and industrial effluents

unit - mg/L or ppm

BOD is determined in the duration of 5 days at 20 degree celsius

COD (Chemical oxygen demand)

The amount of oxygen required by organic matter in a sample of water for its oxidation by a strong chemical oxidizing agent such as $K_2Cr_2O_7$.

BOD is determined in the duration of 3 days measured in mg/litre

BOD measures only biodegradable impurities in water and COD measures both biodegradable and non biodegradable organic matter, Thus COD measures actual organic matter present in water.