

② Nitrogen Content — presence of nitrogen in waste indicates the presence of free ammonia.

(i) Organic Nitrogen

(ii) Nitrate

(iii) Nitrite.

Chloride content — presence of nitrogen in waste water indicates the presence of free ammonia.

(i) Organic nitrogen

(ii) Nitrate

(iii) Nitrite.

Chloride are derived from kitchen waste human faces and urinary discharge etc.

(4) Fats, oils and carcasses — These are derived in sewage from discharge of animal and vegetable matter.

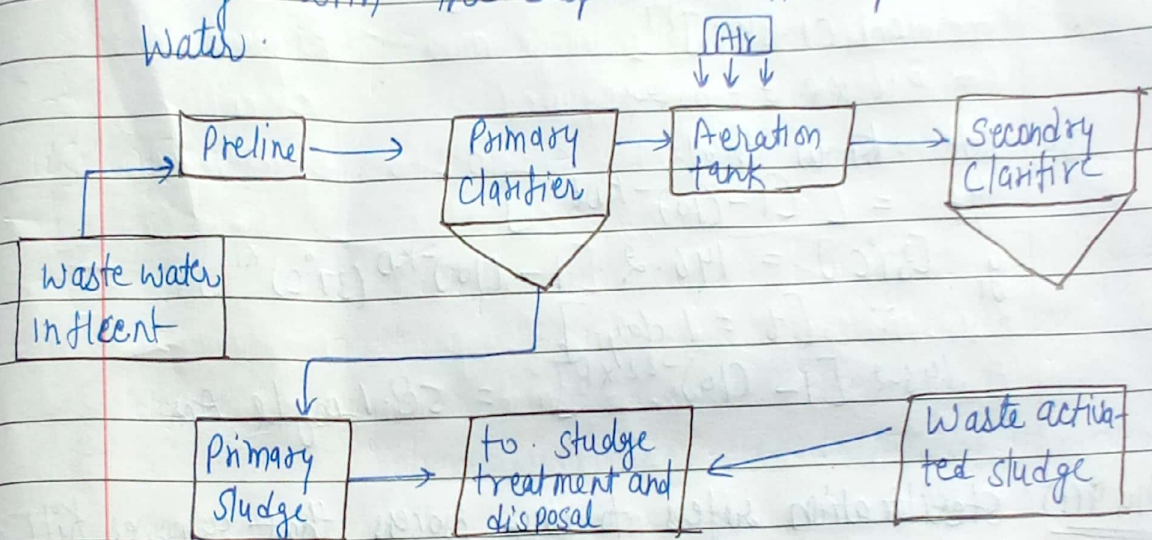
(5) Dissolved oxygen — It is necessary to ensure at least 4 PPM of DO in treated sewage before discharging into river stream.

Chemical oxygen Demand — It is measure of the capacity of water to consume oxygen during the decomposition of organic matter.

Ans-3(a) Activated sludge — The activated sludge is the sludge which is obtained by settling sewage in presence of abundant oxygen so as to be super charge with favourable aerobic microorganism.

Process —

- (1) The activated sludge process is the biological process by which non settleable substances occurring in dissolved and colloidal forms are converted into settleable sludge which is removed from the liquid carrier.
- (2) At a plant the activated sludge is settled out along with the suspended solids present in the water.



Functions of sedimentation tank - Sedimentation tank also called settling tank or clarifier

Component of a modern system of water supply or waste water treatment. A sedimentation tank allows suspended particles to settle out of water or waste water as it flows slowly through the tank there by providing some degree of purification.

Ans (1) given -

5 day 20°C BOD

$Y_{50} = 100 \text{ mg/l}$

To find one day 37°C BOD

Sol - (1) The BOD at 20°C is given by