

(Session- 2018-19)

## Introduction to water Treatment

## INTRODUCTION

- Water treatment is **the process of removing contaminants from wastewater and household water.**
- It **includes physical, chemical, and biological processes** to remove physical, chemical and biological contaminants.
- Its **objective** is to **produce an environmentally safe fluid waste stream** and a **solid waste suitable for disposal or reuse** .

## IMPORTANCE OF DRINKING WATER TREATMENT PLANT:-

1. AERATION
3. SEDIMENTATION and FLOCCULATION
4. FILTERATION
5. DISINFECTION
6. SOFTENING

## WHAT IS SCREENING ?

- Screening is done to carry out the remove of heavy suspended solid from the water.  
like:- plants, stones, animals,trees, etc.
- Screening is generally adopted for the treatment of surface water.
- Screening is done with the help of -----
  - **1. Coarse Screen**
  - **2. Fine Screen**

## COARSE SCREEN :-

- **Coarse Screen:-** Coarse Screen in the form of bar of size 10mm to 25mm having spacing of 2200mm center to center.



## FINE SCREEN:-

- **Fine Screen:-** Fine screen in the form of wire cross of size 10mm



## WHAT IS AERATION ?

- **Aeration:-** It is the process in which water of brought intimate contact of air .
- It removes undesirable gases.  $\text{CO}_2$  ,  $\text{H}_2\text{S}$ .
- It removes undesirable organic mater.



## FLOCCULATION:-

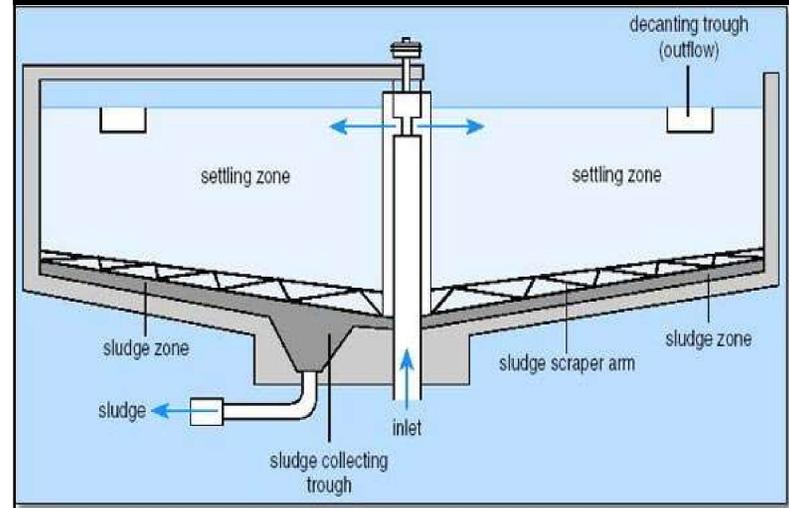
- **Flocculation:-** It is the process in which naturalize particle are in contact with each other , so as to promote their resulting in increased size.

## Sedimentation :-

- Sedimentation:-**  
 Sedimentation is the process removes suspended particle form the water which could not be removes in the screening process.



## Primary sedimentation tank for sludge removal



## FILTRATION :-

- **Filtration:-** It is carry out for the removes of fine suspended particles and flow from the water.
- Filtration also remove organic matter. Micro organism , minerals form the water,

## SOFTENING :-

- **Softening:-** Softening is done in order to carry out the remove of the hardness form the water.

