Activated Sludge Process
[Wastewater Engineering]

Simplified Learning

In Activated Sludge Process, MLSS and MLVSS stand for

(A) Mixed Liquor Suspended Solids and Mixed Liquor Volume of Suspended Solids

(B) Mixed Liquor Suspended Solids and Mixed Liquor Volatile Suspended Solids

(C) Microbial Liquor Suspended Solids and Microbial Liquor Volume of Suspended Solids

(D) None of the above

ANSWER: (B) Mixed Liquor Suspended Solids and Mixed Liquor Volatile Suspended Solids

Click here for explanation in English

Click here for explanation in Hindi

For a conventional Activated Sludge Process, MLSS ranges from

(A) 1000 to 2000 mg/l

(B) 3000 to 5000 mg/l

(C) 5000 to 5500 mg/l

(D) 1500 to 3000 mg/l

ANSWER: (D) 1500 to 3000 mg/l

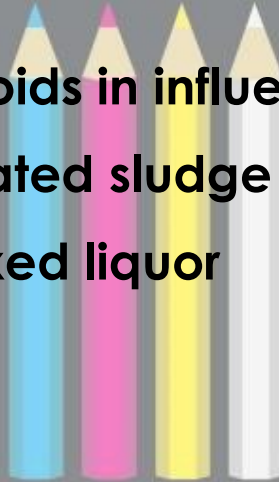Click here for explanation in English

Click here for explanation in Hindi

Main function of aeration unit in Activated Sludge Process is

(A) Flocculation of colloids in influent

(B) Suspension of activated sludge floc

(C) Oxygenation of mixed liquor

(D) All of the above

ANSWER: (D) All of the above

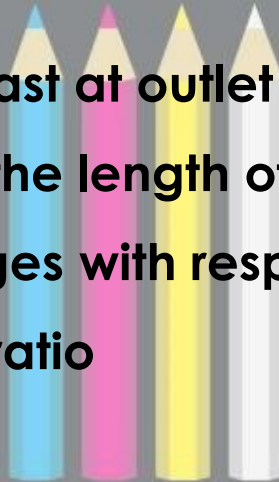Click here for explanation in English

Click here for explanation in Hindi

In 'complete mixed flow' type activated sludge process, oxygen demand is

(A) More at inlet and least at outlet

(B) Uniform throughout the length of the tank

(C) Variable and changes with respect to influent feed

(D) Dependent on F/M ratio

ANSWER: (B) Uniform throughout the length of the tank

Click here for explanation in English

Click here for explanation in Hindi

In 'plug flow' type activated sludge process, F/M ratio and oxygen demand is

(A) Minimum at inlet & outlet and maximum at mid length of the tank

(B) Maximum at outlet and minimum at inlet

(C) Maximum at inlet and minimum at outlet

(D) Maximum at inlet and increases at mid length and maximum at outlet

ANSWER: (C) Maximum at inlet and minimum at outlet
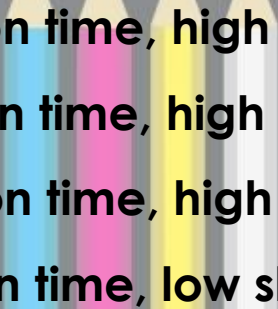
Click here for explanation in English

Click here for explanation in Hindi

Extended aeration process type activated sludge process operates at

(A) Long hydraulic retention time, high sludge age, low F/M ratio

(B) Short hydraulic retention time, high sludge age, high F/M ratio

(C) Long hydraulic retention time, high sludge age, high F/M ratio

(D) High hydraulic retention time, low sludge age, low F/M ratio

ANSWER: (A) Long hydraulic retention time, high sludge age, low F/M ratio

Click here for explanation in English

Click here for explanation in Hindi

Floating or rising sludge problem in activated sludge process can be overcome by

(A) Increasing the return sludge age

(B) Increasing mean cell residence time

(C) Increasing rate of flow of aeration liquor

(D) Decreasing speed of sludge scraper device

ANSWER: (A) Increasing the return sludge age

Click here for explanation in English

Click here for explanation in Hindi

Problem of sludge in activated sludge process when it does not settle properly is termed as

(A) Rising sludge

(B) Sludge bulking

(C) Sludge ponding

(D) Expanding sludge

ANSWER: (B) Sludge bulking

Click here for explanation in English

Click here for explanation in Hindi

Activated sludge process has BOD and SS removal efficiency of around

(A) 70 %

(B) 80 %

(C) 90 %

(D) 90 to 99 %

ANSWER: (C) 90 %

Click here for explanation in English

Click here for explanation in Hindi