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Section B

Assignment No #01

Submitted to Engr. Nadeem.

HYDRAULIC RETENTION TIME :

The hydraulic Retention time (HRT) is a measure of the average length of time that a soluable lompound remains in a lonstructed bioreactor. The volume of the aeration tank divided by the volume of the aeration tank divided by the influent flowrate is (?) Tau

Solid Retention Time (SRT) :

Solid Retention Time. is the average time the activated-sludge sloid are in the System. The SRT is an important design and operating parameter for activated-sludge process and is. Usually Expressed in days.

$$SRT. = V \times cd. / Q_{out} \times C_{out}.$$

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Decoupling SRT From HRT:

Decoupling SRT and HRT Enhance the Organic loading rate and Enable reactor size reductions.

There are four Approches to decouple SRT from HRT;

Approches;

→ Bio Mass Immobilization in attached growth Systems.

→ Granulation and floc formation.

→ Biomass recycling.

→ Biomass retention.

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ADVANTAGES OF DECOUPLING SRT FROM HRT :

→ Decoupling implies using less resources and generating less waste per unit of economic activity

→ Relative decoupling is a positive sign, the real aim is to achieve absolute decoupling, where the economy can continue to grow and waste generation reduces.

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