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SEC: A

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QUESTION # 1:

HYDRAULIC RETENTION TIME:

The hydraulic retention time is the measure of average length of time that a soluble substance raimain in a constructed bioreactor.

The volume of the eqration tank tank divided the influent flow rate is the hydraulic retention time.

A high hydraulic retention time yield high hydrogen production rate and lower capital

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outlay by reducing the size of the bioreactor.

HRT is a very important parameter for the hydrogen and methan production in contineous mode.

SOLID RETENTION TIME:

SRT is the time of solid friction of the wastewater in a treatment unit. it is quantity of solids maintained in the reactor divide by the quantity of solids coming out the reactor each day

$$SRT = V_R Cd / Cout \times Coot$$

Cout is the solid concentration of the effluent.

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QUESTION # 9:

Method used for Decoupin SRT from HRT:

by decouping the liquid wastewater can be process faster

HRT is the time water is retained within the digester and is equal to reactor volume divided by the average volumetric flowrate in many instance a short HRT will reduce capital operation cost there may be some advantages for a simple design generally reliable and easily managed through modern control permit in hands.

- Contineous Stirred reactor
- HRT contract Reactor
- HRT seqvencing bath reactor
- Plug flow reactor
- Unduced load reactor

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