

WASTE DISPOSAL

TYPES OF WASTE

• 1. Refuse • - Solid waste generated from - Street/Market/Domestic refuse etc. • Human excreta or Night soil is NOT a solid waste • Domestic refuse • a. Ash-residue from fire used for cooking or heating • b. Rubbish-paper, clothes, glass, metal wood, dust etc. • c. Garbage-food waste generated from kitchen

• 2. Sewage • Liquid waste containing Excreta • Composition - 99.9% water + 0.1% solid (Organic & Inorganic) • Sewage ground water is disposed by Activated Sludge Process • Dry Weather Flow-amount of sewage that flows in sewage system in 24 hours • Strength of sewage is expressed : • Biological Oxygen Demand (BOD) Amount of oxygen absorbed

by sewage for aerobic destruction of organic matter by living organism

Indicator of organic content of sewage .

a. Strong sewage - $BOD > 300 \text{ gm/L}$. b.

Weak sewage - $BOD < 100 \text{ gm/L}$

• Chemical Oxygen Demand (COD) .

Measures the portion of organic matter which is susceptible to oxidation by

chemical oxidizer . Potassium Dichromate

is best for COD estimation . If waste

water contains toxic substances, organic

load is measured by COD . Suspended

Solids (SS) . a. Strong sewage - $SS > 500$

mg/L . b. Weak sewage - $SS < 100 \text{ mg/L}$.

3. Sullage > Liquid waste WITHOUT

Excreta, Generated from domestic

process such as kitchen, laundry, bathing

etc. . 4. Litter-Waste disposed in wrong

place by unlawful action

METHODS OF REFUSE DISPOSAL . 1.

Insanitary method . Hog feeding-

feeding refuse to pigs . Stocking-piling up

of refuse & cow dung .

Salvaging-screening refuse dumps to cover objects that can be reused • Dumping-throwing refuse openly • 2. Sanitary method • Composting - Integrating disposal of Refuse & Night soil NOT a safe method of disposal, but it's good for soil building • If land is available, best method of sewage disposal is composting • a. Bangalore method - Anaerobic hot fermentation • Alternate layer of Refuse & Night soil in 3:1 proportion Topmost & Lowermost layer should be of refuse

• b. Indore method - Aerobic Process • ii. Sanitary landfill (Controlled tipping) • Laying Dry & Condensed refuse in layers with intervening earth, followed by mechanical compression • Most satisfactory method of refuse disposal • a. Ramp method • b. Area method [Sanitary RAT] • c. Trench method - 1 acre land is required per year for 10000 population to fill its 2 m depth • 3. Incineration - high temperature dry

oxidation process