

Revision Notes

Chapter – 18

Wastewater Story

- **Wastewater:** Black-brown water which is rich in lather, mixed with oil that goes down the drains from skins, showers, toilets, laundries is called **wastewater**.
 - Wastewater is generated in homes, industries, agricultural fields and in other human activities. This is called sewage.
 - Sewage is a liquid waste which causes water and soil pollution.
 - Wastewater is treated in a sewage treatment plant.
 - Treatment plants reduce pollutants in wastewater to a level where nature can take care of it.
 - Where underground sewerage systems and refuse disposal systems are not available, the low cost on-site sanitation system can be adopted.
 - By-products of wastewater treatment are sludge and bio gas.
 - Open drain system is a breeding place for flies, mosquitoes and organisms which cause diseases.
 - We should not defecate in the open. It is possible to have safe disposal of excreta by low cost methods.
- **Sewage Treatment:**
 1. **Aeration:** Air is bubbled through the wastewater while it is continuously stirred.
 2. **Filtration:** Aerated water passes through a deep filter of layered sand, fine gravel and medium gravel.
 3. **Chlorination:** Chlorine is added and mixed to the filtered water until water is clear.
 - **Wastewater Treatment Plant (WWTP):**
 1. Wastewater passes through screens to remove large objects.
 2. To go to a grit and sand removal tank at low speed.
 3. Water is allowed to settle in large tank.
 4. Floating solids are removed with skimmer. Settled solids (sludge) are removed with

scraper.

5. Clear water is called clarified water.
6. Water is then decomposed by anaerobic bacteria in a tank and air is passed.
7. Microbes settled at bottom as activated sludge and water from top is removed.

