FAQ's

1. **What are the basic consideration of waste water treatment?**

   The selection of unit operations and processes primarily depends on the characteristics of the sewage and the required level of contaminants permitted in the treated effluents. The main contaminants in domestic sewage, to be removed, are biodegradable organics, Suspended Solids (SS) and pathogens, with first two having been considered as the performance indicators for various treatment units. In general the objective of the domestic wastewater treatment is to bring down BOD less than 30 mg/L and SS less than 30 mg/L for disposal into inland water bodies.

2. **What are the operations of primary treatment unit?**

   The operations used are screening for removing floating papers, rages, cloths, etc., grit chambers or detritus tanks for removing grit and sand, and skimming tanks for removing oils and grease; and primary settling tank is provided for removal of residual suspended matter. The organic solids, which are separated out in the sedimentation tanks in primary treatment, are often stabilized by anaerobic decomposition in digestion tank or incinerated. After digestion the sludge can be used as manure after drying on sludge drying beds or by some other means.

3. **Explain the sludge treatment in sewage treatment process?**

   Sludge drying beds are commonly used in small wastewater treatment plants to dewater the sludge prior to final disposal. Two mechanisms are involved in the process, such as filtration of water through the sand, and evaporation of water from sludge surface. The filtered water is returned to the plant for treatment. The process is well suited to sludge, which have under gone proper aerobic or anaerobic digestion. Sludge from the conventional activated sludge, contacted stabilization, trickling filter, and rotating biological contactor processes usually contain a large amount of volatile solid, which tend to unpleasant odour problem. Therefore this method is generally not suitable for handling this sludge without prior stabilization, and digestion of sludge is essential prior to application of sludge on sludge drying beds.

4. **Write short notes on Tertiary treatment process?**

This treatment is sometimes called as the final or advanced treatment and consists of removing the organic matter left after secondary treatment, removal of nutrients from sewage, and particularly to kill the pathogenic bacteria. Disinfection is normally carried out by chlorination for safe disposal of treated sewage in water body which is likely to be used at downstream for water supplies. However, for other reuses tertiary treatment is required for further removal of organic matter, suspended solids, nutrients and total dissolved solids as per the needs.

5. **What are the characteristics of effluent quality required to dispose off safely?**

For disposal of treated effluent in the water body or reuse for irrigation the effluent standards are defined by Central Pollution Control Board (www.cpcb.nic.in). For discharge of treated sewage in water body the standard for BOD and SS is 30 mg/L and for application on land for irrigation it is 100 mg/L.