

Q.1  
Physical characteristics

of waste water.

Physical properties

1) Temperature: Temperature affects biological activity of bacteria present in sewage. The average temperature of sewage in India is  $20^{\circ}\text{C}$ .

2) Colour: Colour can be detected by naked eye and it indicates the freshness of sewage.

3) Odour: Fresh sewage is odourless. but in 3-4 hours it becomes state with all oxygen of present.

4) Solids: Though sewage contains only about 0.1 percent solids. The sewage solids may be classified into dissolve solids.

5) Turbidity: Dirty water or wastewater from baths having matter like faeces.

## Chemical characteristics :-

1) pH value:- pH value of Sewage indicates the negative log of Hydrogen ion concentration present in sewage.

$$[H^+] = 10^{-pH}$$

$$pH = -\log [H^+]$$

2) Nitrogen content:- presence of nitrogen in wastewater indicates the presence of:-

- 1) free ammonia,
- 2) organic nitrogen
- 3) nitrate
- 4) nitrite

3) Chloride content:- Chloride are derived from kitchen waste human faeces and urinary discharge.

4) Fats, oils & Greases:-

These are derived in sewage from discharge of animal & vegetable matter.

- 5) Dissolved oxygen: It is necessary to ensure at least 4 ppm of DO in treated sewage before discharging into river stream.
- 6) Chemical oxygen demand: It is measured of the capacity of water to consume oxygen during the decomposition of organic matter.