

Q. Define the term water pollution. What indicators are used to measure the quality of water? Write down the drinking water quality standard.

ANSWER:

### 1- WATER POLLUTION:

Water pollution is also known as aquatic pollution. Water pollution means that any changes in the biological, ~~physic~~ physical or chemical properties of water which effects and have consequences on living things.

Such contamination in water is harmful for the existence of living things whether on land, air or in water. These toxic substances are produced ~~and~~ by various areas such as from Industries, Agriculture, domestic or factories.

### 2- INDICATORS USED TO MEASURE

WATER QUALITY:

Day: \_\_\_\_\_

Date: \_\_\_\_\_

There are indicators which are used to measure water quality so that water remains safe to all those who use it. These indicators are listed below:

### a.1. PH levels:

pH measures the concentration of hydrogen ions in water on a scale of 0 to 14 where 7 is neutral, anything above 7 is alkaline whereas anything below 7 is acidic. pH levels affects the solubility of organic compounds, metals, and salts. As pH or temperature rises, so too does the toxicity to aquatic organisms.

### a.2. levels of dissolved oxygen.

Dissolved oxygen is essential for a healthy aquatic ecosystem. Fish and aquatic animals need the oxygen dissolved in the water to survive. As water temperature increases, the amount of oxygen that dissolves in water decreases. The need of oxygen depends on the species and <sup>their</sup> life stages.

Day: \_\_\_\_\_

Date: \_\_\_\_\_

### 2.3. levels of metals

A number of metals, such as copper, magnesium, zinc etc are essential to biochemical processes that sustain life. Dissolved metals are generally more toxic than metals bound in complexes with other molecules.

### 2.4. levels of total dissolved solids

The concentration of total dissolved solids (TDS) is a measure of the amount of dissolved mineral in water. High levels of total dissolved solids make water less suitable for drinking and irrigation. TDS includes solutes such as sodium, calcium, magnesium, bicarbonates and chloride that remain as a solid residue after the evaporation of water from the sample.

### 3- DRINKING WATER QUALITY STANDARD:

According to WHO, water is considered to be safe to drink if.

0. It has dissolved oxygen concentrations above 6.5 - 8 mg/L

Day: \_\_\_\_\_

Date: \_\_\_\_\_

- b. It has turbidity of less than 5 NTU
- c. It has nitrates less than 10 mg/L
- d. It has a pH of 6.5 - 8.5