



REF: PP017

PROCEDURE FOR TSS, TDS, COD, BOD, DO

TESTING OF SAMPLE FOR TOTAL SUSPENDED SOLIDS

- Place filtration apparatus with weighed filter in filter flask.
- Mix sample well and pour into a graduated cylinder to the selected volume.
- Apply suction to filter flask and seat filter with a small amount of distilled water.
- Pour selected volume into filtration apparatus.
- Draw sample through filter into filter flask.
- Rinse graduated cylinder into filtration apparatus with three successive 10 mL portions of distilled water, allowing complete drainage between each rinsing.
- Continue suction for three minutes after filtration of final rinse is completed.
- Dry filter in an oven at 103-105°C for at least 1 hour.
- Cool filter in desiccator to room temperature.
- When cool, weigh the filter and support.

TOTAL DISSOLVED SOLID (TDS):

Total dissolved solids are due to soluble materials. These refer to the portion of total solid that pass through the filter and is express in Mg/L (APHA, 1985). High water with high dissolved solid is generally of inferior palatability and may induce an unfavourable physiological reaction in the transient consumer (ASTM 2004; APHA, 1985). High concentration of dissolved solid in water is also responsible for hardness, turbidity, odour, taste, colour and alkalinity (ASTM, 2004). The maximum permissible concentration of TDS is 500mg/L in potable water.v. Colour: good water should be transparent and clear. The colour of water is expressed in Hazen units which correspond to the colouration of a series of platinum/cobalt.vi. Temperature:the temperature of water is not the main issue when considering it as physical parameter, but its effect on other properties e.g. changing solubility of gases.

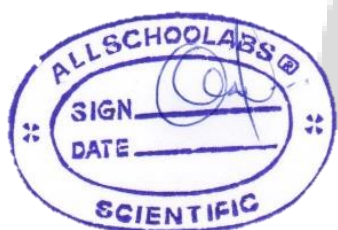
TDS TEST

(Total Dissolved Solids) The TDS test was carried out with the same procedure and meter with that of a conductivity test, and its value was selected from the conductivity meter.

DO

Dissolved Oxygen (DO): it is a measure of the oxygen content in water. Different life forms in water need oxygen for survival. Water low in dissolved oxygen has an unpleasant smell while waters high in dissolved oxygen are good for drinking purposes. Biological oxygen demand (BOD): is oxygen used by microorganism per unit volume of water at a given time. v. Chemical oxygen demand (COD) is the amount of oxygen required to decompose/oxidize the oxidizable compound of waste water.

The presence of element nitrogen and chlorine: nitrogen is a very important element and all biological reaction begins when it is present. Thus the concentration of nitrogen can be used to determine the quality of water samples. The chloride content in water is another important factor for water quality analysis. vii. Alkalinity: the presence of hydroxides, carbonate and bicarbonate in natural water cause alkalinity. Alkalinity is defined by (Ademorati, 1996) as a measure of the ability of water samples to neutralize strong acids to an arbitrary pH or an indicator end-point.



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