Summary of Minor Research Project in Chemistry on

ANALYSIS OF QUALITY OF WATER IN KRISHNA RIVER FLOWING IN KARNATAKA STATE

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SUMMARY

Conductivities of some samples of Krishna river water have shown moderately high conductivity and even then they are found to be good samples. 26 water samples are analysed to find out the amount of total dissolved salts present. From the present investigation it is clear that all the water samples contain TDS within the desirable limits, hence water is good for potable purpose.

In our present investigations out of 26 water samples, most of the water samples are having pH between 7.0 – 7.8 in which they are slightly alkaline in nature and their pH values are below the normal range. It is suspected that surrounding area of water samples are having pH almost equal to 7.0. The actual permissible range of alkalinity for River water samples are 98 – 200 mg/1. All samples which are analysed show the alkalinity values less than 600 mg/1. Therefore all water samples are not highly alkaline in nature. Hence as such alkalinity of these water samples are to within the desirable limits and it is not to worry for human consumption and agricultural purposes.

Calcium does not have any physiological effects except for its action with soap and incrustation in water supply structures, boilers and vessels used for storing water. The amount of Ca^{+2} if it is high in water, it may be softened to prevent its effect. But the investigation reveals that taste of water changes adversely and not fit for drinking purpose. But high Ca^{+2} content is not advisable for industrial purposes. Mg^{+2} does not have any physiological effects, except for their action with soap and encrustation in water supply structures, boilers and vessels used for storing water. But taste of water is affected badly as its contamination increases in water. SomeSamples contain above the desirable level, but it is less than permissible level. Hence not much difference in taste.

The standard limit of $C1^{-1}$ in potable water may be 200-1000 mg/1. In our present studies it is clear that all differentarea of water samples are having chloride ion below the desirable limit 6 – 22mg/l and is not to be worried. Fluoride ion concentration is very difficult to manage as it should be neither too low nor too high, as both the way it is to be taken care. In the present investigations, it is found that most of the water samples are having F^{-1} ion concentration less than 0.88 mg/1. They need to be treated for want of F^- ion in water only, but very few water samples require no treatment options.

Sulphate present in all 26 water samples are analysed. The actual tolerance limit of SO_4^{-2} in any potable water is 200 – 400 mg/1. In the present investigations it is found that all the samples the values are < 79 mg/1. Therefore the overall analysis says that SO_4^{-2} contamination in all our samples is not at all serious and not harmful. Dissolved oxygen is analyzed for all the water samples, the permitted range of D.O. in a good water sample is 4.0 -6.9 mg/1 at 25^0C. That most of water samples are having D.O. less than 5.0 mg/1. Only a few water samples are having desirable amount of oxygen and they are found to be best water samples. Higher the D.O. level in water, greater is the usefulness of water and called ideal water.

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