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REGRESSION ANALYSIS OF BOD_5 AND COD WITH TOC FOR DOMESTIC WASTEWATER

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Abstract

Presently, the available means for ascertaining the true potential of organic matter in the form of bio-chemical oxygen demand (BOD_5) and chemical oxygen demand (COD) is time consuming and imprecise. To overcome these time based difficulties, an attempt is being made to use a faster mode of assessment by establishing a relationship between BOD and COD with total organic carbon (TOC). To accomplish the same, the domestic wastewater collected from sewage farm, Mysore, sampled over a period of 2 months was analyzed for three parameters, BOD_5, COD and TOC. The best fit regression line for BOD_5 with COD was obtained as BOD_5 = +0.631 COD mg/L. While the best fit regression line for BOD_5 with TOC took the form, BOD_5 = +0.373 TOC mg/L, for COD with TOC, it was COD = +0.565 TOC mg/L. The regression lines so developed, on comparison with practical & graphical values resulted in 99% efficiency.

Keywords- BOD_5, COD, TOC, Regression, Domestic.