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| **Title:** | Performance Comparison Between Chitosan and Microorganism as Medium of Sustainable Effluent Treatment. | | |
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| **Abstract:** |  |
| Wastewater generation and increasing cost of wastewater treatment methods are one of the major drawbacks of Textile Industries. Various chemicals are used in the Effluent Treatment Plant (ETP) to remove Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD) and color from the wastewater and these chemicals require additional treatment before the wastewater is discharged from ETP. In this research the possibilities of using chitosan as a natural coagulant is investigated and it was found that chitosan was more effective than micro-organism to reduce BOD, COD and color from the wastewater. However, the amount of chitosan dosage plays an important role in this regard. The dosage rate was varied from 0.1–0.3 g and the best results were obtained at 0.2 g dosage. Flocculation process was applied for chitosan treatment followed by the aeration process that was used for microorganism treatment. The pH of the wastewater was maintained between 4–4.5 and at this level of Ph chitosan treatment method achieved highest BOD, COD and color removal efficiency. Compared to microorganism treatment chitosan treatment showed better results and required less time. | |