

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI 590 018



A REPORT ON PROJECT WORK

DEVELOPMENT OF MATHEMATICAL MODELS FOR REMOVAL OF NITRATES FROM WASTE WATER

Submitted in the partial fulfillment of the requirements for the award of the degree of

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ABSTRACT

In most of the big cities, industries and agricultural schemes are established on the banks of rivers and ponds. These establishments are representing the major sources of contaminants to water bodies. The discharge of most of those establishments don't receive any treatment and it goes directly to water bodies, this situation becomes more dangerous in rainy season, where rainfall leaches all harmful and toxic matters from upstream to water down stream. One of the major indications of the pollution levels is Nitrate and reducing nitrate is one of the major challenges in the present day scenario.

Many different methods are suggested for treatments of water to remove Nitrate, but most of these methods are costly and involve cumbersome chemical and mechanical procedures. Literature reviews shows that activated carbon and bagasse ash acts as good adsorbent for removal of nitrate from waste water. However the study is not complete and most of the design parameters are not established. "The present study aims at studying the efficiency of activated carbon and bagasse ash for reduction of nitrate from waste water and developing a mathematical model on it". The material is locally available and is very cheap. The method will also be very simple and devoid of cumbersome chemical and mechanical procedures.