# PREFACE

The Laboratory of Department of Environment Sciences, Shivaji University, Kolhapur (Maharashtra) India has been engaged in extensive work in environmental pollution. Environmental pollution is a global phenomenon. In developing countries like India, industrial growth plays a primary role in accelerating overall development and providing employment. Textile industry is one of the largest sector in our country which plays key role in the economy of the country as it is one of the major foreign exchange earners. It is the third largest textile producer in world, only next to U.S.A. and Japan.

The textile industry is one of the oldest industries in India These mills require large volumes of water for various unit operations. Various chemicals, dyes are used in these processes. These textile mills are generating waste water as effluents which have strong colour, fluctuating pH, high BOD and COD etc. The discharge of this untreated effluents in the nearest waterbodies leads to pollution of the receiving streams. Long term discharges of the effluents deteriorate the quality of waterbodies which is harmful to human health, acquatic life and agriculture.

Ichalkaranji is one of the industrialized city where textile industry is widely spread. The textile processing units in Ichalkaranji are engaged in various unit operations like desizing, bleaching, mercerizing, dyeing and finishing operations. All these unit processes are consuming large amount of water and generate equally large

volumes of water as a waste water effluent. These effluents containing toxic chemicals, fibres, unused dyes etc. are directly discharged into the river Panchaganga. Thus the waste water effluents discharged into the river are responsible for the river water pollution. So it is essential to assess the water quality of this industrial waste water and try to search for the remedial measures for prevention of water pollution.

Some suggestions regarding the treatement of waste water effluents have been reported by analysing the waste water effluents of various textile processing units in India. As the characterstics of waste water effluents are varying from mill to mill, depending upon the use of chemicals and dyes, it is necessary to analyse the waste water effluents by selecting the paticular process unit. The present work was carried out by using standard methods of analysis. The characterization of the waste water effluents from various sections of the processing unit was carried out with respect to the various parameters like pH, temperature, Total alkalinity, Total solids, Dissolved Oxygen (DO), Chemical Oxygen Demand (COD), Biochemical Oxygen Demand (BOD), presence of nitrates, nitrites , chlorides, residual chlorine etc. The present investigation was carried out to suggest the treatment and remedial measures to the textile process industry.

The present dissertation is divided into three chapters with concluding remarks. The first chapter gives a detailed account of the introduction of textile industry and pollution, manufacturing processes in textile industry, survey of literature, water requirement of textile processes and waste water generation and pollution effects. Second

chapter is materials and methods which describes study area, selection of site, plan of proposed work and methodology employed in the present work. In third chapter, results are presented and the treatment suggestions are discussed with concluding remarks.

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