

ANJUMAN ENGINEERING COLLEGE (FOR MEN)

(AFFILIATED TO VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM AND RECOGNISED BY AICTE, NEW DELHI)

ANJUMANABAD, BHATKAL – 581320

KARNATAKA



A PROJECT REPORT ON

“DEFLUORIDATION OF DRINKING WATER USING INEXPENSIVE ACTIVATED CARBONS AS ADSORBENTS”

**SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT OF BACHELOR OF
ENGINEERING DEGREE IN CIVIL ENGINEERING OF THE VISVESVARAYA TECHNOLOGICAL
UNIVERSITY, BELGAUM**

BY

BHARATH G. BHAT

ALTHAF AHAMMED P P

ASHTHAF ALI C

MD. ATIQUE RAHMAN AZAD

UNDER THE GUIDANCE OF

Prof. M. N. HIREMATH

(ASST. PROFESSOR, DEPT. OF CIVIL ENGG)

DEPARTMENT OF CIVIL ENGINEERING

2009 - 2010

ABSTRACT

Water is a chemical compound which is extremely useful to man, providing him the luxuries and comforts, in addition to fulfilling his basic necessities of life. It is necessary that the water required must be good, pure and it should not contain unwanted impurities, contaminants and chemical compounds. Fluoride is one such contaminant. Fluoride is a salt of the element fluorine, the most highly reactive element of halogen family. High concentration of fluorides which cause mottling of teeth initially and dental fluorosis diseases to crippling skeletal fluorosis with continued use of fluoride rich waters.

Defluoridation is the only practicable option to overcome the problem of excessive fluoride in drinking water, where alternative source is not available. During the years following the discovery of fluoride as the cause of fluorosis, extensive research has been done on various methods for removal of fluoride from water. These methods are based on the Principle of Adsorption, Ion Exchange, Precipitation – Coagulation, Membrane Separation Process, Electrolytic Defluoridation, Electrodialysis, etc.

However due to high cost and lower efficiency or non-applicability on mass scale these techniques is not much in use. Hence in this present work, an attempt is made to remove the fluoride in drinking water using activated carbon prepared from inexpensive agro byproducts as adsorbents.