

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM – 590 010**



**PROJECT REPORT ON
“SILK FIBROIN COATED ANTI-MICROBIAL MEDICAL TEXTILE
PRODUCTS”**

(Sponsored by K.S.C.S.T)

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

**BACHELOR OF TECHNOLOGY
IN
TEXTILE TECHNOLOGY**

PROJECT ASSOCIATES

ANITHA.D.V	4BD08TX003
KAVYA.B.S	4BD08TX017
POOJA.S.R	4BD08TX024
SAHANA.N	4BD08TX028

Project guide

Dr. K. MURUGESH BABU
M.Tech., Ph.D., EMBA, MIE, MISTE
PROFESSOR



DEPARTMENT OF TEXTILE TECHNOLOGY
BAPUJI INSTITUTE OF ENGINEERING AND TECHNOLOGY
DAVANGERE - 577 004, KARNATAKA, INDIA.

JUNE-2012

ABSTRACT

Textile products are used in medical and healthcare sector in various forms. The complicity of applications has increased with research and development in the area of medical textiles.

In this study an attempt has been made to develop eco-friendly natural fibre based medical products such as baby's diaper, sanitary napkins and surgical wound dressings. These products were developed by coating natural silk fibroin protein extracted from natural silk fibre. An effective technique has been used for extraction of silk fibroin protein from raw silk by successive methods of degumming, dissolution and dialysis. In addition the silk fibroin protein was combined with certain natural oils such as neem, clove, eucalyptus which were found to posses anti-microbial property. This protein/oil mixture in the ratio of 10:1 was applied to impart anti-microbial property to the products.

The natural silk fibroin protein, natural anti-microbial oils in combination with natural fibres like sterilized cotton, organic cotton and bamboo was incorporated in the medical products demonstrate excellent holding capacity, wicking behaviour compared to commercially available products. All the products exhibit very good anti-microbial property which is needed for the medical product.