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**FACULTY OF ENGINEERING**

**DEPARTMENT OF POLYMER, TEXTILE AND  
INDUSTRIAL ENGINEERING**

**FINAL YEAR PROJECT REPORT**

**INSULATIVE NONWOVEN FROM RECYCLED MEDICAL  
FACE MASKS AND PINEAPPLE LEAF FIBRES**

**BY**

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**MARCH 2022**

**DECLARATION**

I..... declare that all the work presented in here is my original work unless cited and no one has presented it before for the award of any certificate, diploma or bachelor in any institution of learning.

**Signature**.....

Date.....

## **DEDICATION**

I dedicated this project report to my brother Wasswa Emmy for the wonderful work, PTI pioneers class of 2017 to 2022, and the entire Busitema University PTI Department fraternity for the wonderful work they did and advice throughout this study period.

## ACKNOWLEDGEMENT

First and foremost, I thank the Almighty God for the wisdom and Devine guidance during the entire life of cycle of this study, it's been His Grace up on me that I have managed to complete it successfully.

To my beautiful and loving family, let me say that has been GOD'S grace for me to finish this course, we all emerge winners since we have been together through it all.

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## ABSTRACT

Recycling is a way to process, the used materials (waste) into new products to prevent waste of potentially useful materials. Textile waste recycling becomes more important phenomenon, bearing in mind the limited availability of resources to produce natural fibres as well as fossil raw materials to make synthetic fibres. Recycled textile waste can be further converted in the form of fibre for filling, recycled yarn, recycled woven fabric, recycled nonwoven fabrics etc. Therefore, the present study has been conducted to prepare nonwoven fabric by use of recycled medical masks and pineapple leaf fibres.

In a singular period, such as during a pandemic, the use of personal protective masks can become mandatory for all citizens in many places worldwide. The most used device is the disposable mask that, inevitably, generates a substantial waste flow to send to incineration or landfill. The article examines the most diffused type of disposable face mask and identifies the characteristic of the constituent materials through morphological, chemical, physical, and thermal analyse

## **APPROVAL**

This report has been compiled and submitted under the supervision of the following supervisors;

### **Main supervisor**

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