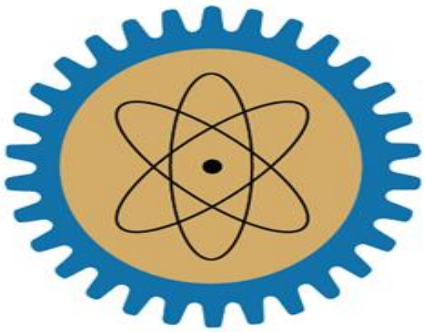

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF POLYMER, TEXTILE AND INDUSTRIAL ENGINEERING

FINAL YEAR PROJECT PROPOSAL

GRADING UGANDA'S COTTON LINT QUALITY BASING ON GROWING SEASON AND REGION

BY

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A project proposal submitted in partial fulfillment of the requirements for the award of the diploma in ginning and industrial engineering at Busitema university

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ABSTRACT

There are different types of cotton harvested at the end of every growing season which include; Long staple cotton, Medium staple cotton, and short staple cotton**.** Samples have to be delivered to classing stations for grading. The main requirements for sampling are; necessary knowledge, experience and required degree of integrity of the concerned process. Different fiber properties are determined by different instruments but one compact and high-speed instrument known as High Volume Instrument (HVI) widely used.

DECLARATION

I **AKUMU LETICIA**, do hereby declare to the best of my knowledge, that this research project report is an outcome of my original work and that it has not been presented to any institution of learning for an academic award. All the work contained in this report is as a result of my own research except where cited.

Signature……...

Date……

APPROVAL

This research project report is submitted to the Faculty of Engineering for examination with approval from the following supervisors

Supervisor

Mr. Tumusiime Godias

Signature……...

Date…….

DEDICATION

This report is dedicated to my beloved guardians, Opala Samson, Ikwara Stephen, in appreciation for their selfless care and unwavering support provided to me since childhood, and for the spirit of hard work, courage and good morals instilled into me that have made me what I am today.

ACKNOWLEDGEMENT

I extend my gratitude to all my Lecturers at the Faculty of Engineering and Department of Textile and ginning Engineering who have nurtured me academically and guided me through my studies for the two academic years.

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LIST OF ACRONYMES

ASTM-American Society for Testing Materials

CDO- Cotton Development Organization

HVI-High Volume Instrument

1 CHAPTER ONE: INTRODUCTION

This chapter describes the background information of my research project, the problem statement, significance which is the impact on the community, justification, why the project was chosen, objectives and scope of the study. The problem statement describes the research problem and identifies potential causes and solutions. The significance
describes the importance of the project. The specific objectives presented will achieve the main objective.

1.1 BACKGROUND

Cotton is said to have been in use since prehistoric times and remains an important product in the world today for many purposes. Cotton grows in a cotton boll which is a protective capsule, around the seeds of the cotton plant.

Cultivated cotton produced today belongs to the genus Gossypium which consists of over 50 species. The majority of cotton produced worldwide today is Gossypium hirsutum, commonly known as upland cotton. There are 3 other species commercially produced including *G.* barbadense or Pima cotton and two Asian species, G. herbaceum and G. arboreum. These four species are commercially grown for the production of lint which can be spun into yarn (Applequist *et al.*, 2001). The quality of lint produced has to be identified by grading with the help of how precision instruments.

Cotton production is an important industry worldwide, supplying the textile industry with raw fiber for the manufacturing of garments. Pressure from synthetic fibres has seen the industry become aware of the need for producing high yields of quality fibre in the most efficient manner. Precise management practices including fertilizer application and ground preparation play significant roles in accomplishing a superior product. Knowledge and experience of interactions between climate, plants, soils and microorganisms is needed to improve the efficiency and sustainability of cotton production. Then harvested cotton is then graded for marketing.

Cotton is a soft fiber that grows around the seeds of the Cotton plant (Gossypium sp.), a shrub native to tropical and subtropical regions around the world, including the Americas, India, and Africa. However, virtually all of the commercial Cotton grown today worldwide is grown from

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