NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

PROJECT REPORT

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DEPARTMENT:	TECHNICAL EDUCATION
PROGRAMME:	BACHELOR OF TECHNICAL EDUCATION (HONOURS) IN MECHANICAL ENGINEERING
PROJECT TITLE:	DESIGN AND MANUFACTURE OF AN IMPROVED POTATO CHIP CUTTER
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THIS REPORT IS PRESENTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF BACHELOR OF TECHNICAL EDUCATION WITH HONOURS IN MECHANICAL ENGINEERING

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ABSTRACT

This study is intended to establish the effective ways of improving the potato chip production. It is the belief of the researcher that in order to produce chips in large volumes the machines that produce the chips must be improved to enable them to handle large volumes of potatoes. The machines being used currently are handling one potato at a time. In this report, the researcher will in chapter one outline the background of the problem, aims of the research, the significance of the study and its implications to the following industries agriculture, tourism, health and manufacturing.

In the second chapter focus will be on the design brief where the description of the machine will be given together with its operation.

The research investigations will be outlined in chapter three. This will include findings from different organizations that use machines similar to the ones under research, which include the function of machine, cost, size, appearance, cleanability and legislation governing machinery and food hygiene, the materials used for the construction of the machine, the types of the potatoes used for the chip production.

In chapter four the product specifications will be given and these include the performance of the machine, its maintenance, the ergonomics, operational environment, the testing carried out to ensure conformity, the costing done to give price of the product. The universal design principles will be also looked at together with the market restraints and the safety aspects of the design.

Chapter Five will look at alternative design solutions while the reasons for arriving at the final solution and the time needed to make the machine as well as the detailed costing will be outlined in chapter six. The seventh chapter will be a presentation of the detailed drawings of the design. Chapter eight will be a description of how the machine was manufactured. Chapter Nine will focus on the testing and evaluation explaining if the machine meets the design brief as well as the modifications necessary, if any, to improve the design.