CONTENTS:

CHAPTER I - INTRODUCTION

- 1.1 Introduction
- 1.2 Resonators
- 1.3 Motivation

CHAPTER II MATERIAL SELECTION AND COMPOSITE PREPARATION TECHNIQUE

- 2.1 Introduction
- 2.2 Low density polyethylene
- 2.3 Why LDPE?
- 2.4 Why ferrite and titania fillers
- 2.5 Volume fraction determination
- 2.6 Material preparation technique
- 2.7 Flowchart for material preparation

CHAPTER III CHARACTERISATION OF THE LDPE-TITANIA- FERRITE COMPOSITES

3.1 PHYSICAL CHARACTERISATION

- 3.1.1 Introduction
- 3.1.2 XRD studies
- 3.1.3 Results and discussions

3.2 MICROWAVE CHARACTERISATION

- 3.2.1 Introduction
- 3.2.2 Microwave measurement set up
- 3.2.3 Techniques for measurement of complex permittivity

Q factor measurement of the cavity Complex permittivity measurement

- 3.2.4 Experimental determination of Q and ε
- 3.2.5 Discussions

CHAPTER IV -

5.1 RESULTS AND DISCUSSIONS

5.2 FUTURE WORK