CONTENTS

Dedication I
Acknowledgement II
Abstract (English) III
Abstract (Arabic) IV
List of tables V
List of Figures VI

1.0 Literature Review 1
   1.1 Introduction 1
       1.1.1 Antibody Techniques 2
   1.2 Radioimmunoassay 3
       1.2.1 Principles 3
       1.2.2 Practical Aspects 6
       1.2.3 The Major Advantage of RIA 10
       1.2.4 The Major Disadvantage of RIA 10
       1.2.5 Immunoradiometric Assay 11
   1.3 Enzyme-Linked Immunosorbent Assay 13
       1.3.1 Principles 14
       1.3.2 Competitive ELISA Method 15
       1.3.3 Double Antibody ELISA Method 15
       1.3.4 Indirect ELISA Method 18
       1.3.5 Enzyme Amplification Method 20
       1.3.6 Practical Aspects 21

2.0 Objectives 25

3.0 Materials and Methods 26
   3.1 Subjects 26
   3.2 Specimen Collection and Preparation 26
   3.3 Microplate Immunoenzymometric Assay 26
       3.3.1 Principle 27
       3.3.2 Apparatus Required 28
       3.3.3 Reagents 28
       3.3.4 Reagents Preparation 29
       3.3.5 Test Procedure 29
       3.3.6 Results 30
       3.3.7 Normal Range 31
   3.4 Total Thyroxine Microplate Enzyme Immunoassay 31