

سامية محمد مصطفى



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



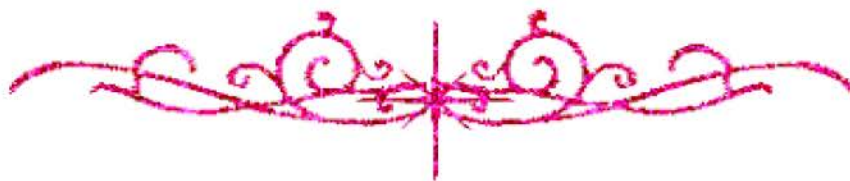
سامية محمد مصطفى



شبكة المعلومات الجامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



سامية محمد مصطفى



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

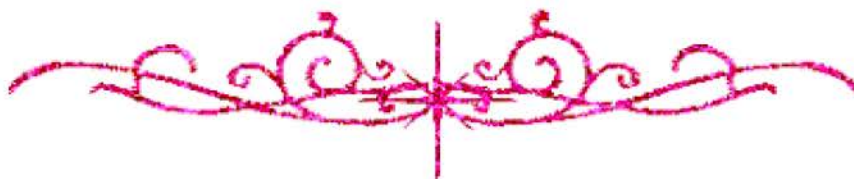
قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغييرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



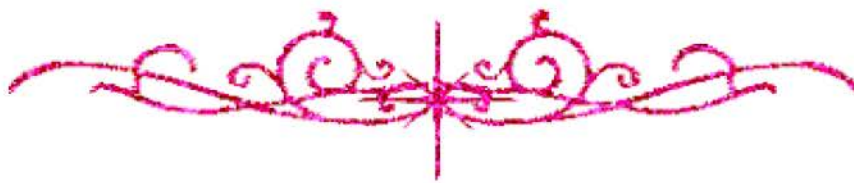
سامية محمد مصطفى



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة



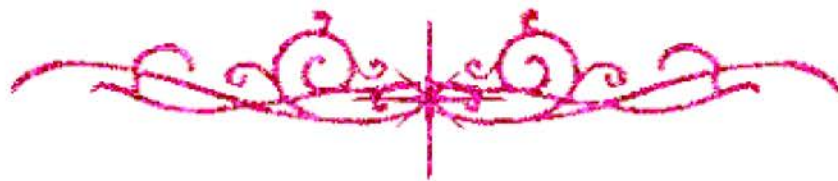
سامية محمد مصطفى



شبكة المعلومات الجامعية



بالرسالة صفحات لم ترد بالأصل



APPROVAL SHEET

Title of the Ph. D. Thesis

**Experimental study on Preparation of Deep
Sclerectomy Using Erbium: YAG Laser**

Name of the candidate

Dina Fouad Ghoneim

Supervisors

Prof. Dr. Yehia Badr

Professor of Physics
and Dean of NILES
Cairo University

Signature

Prof. Dr. Moustafa Bahgat

Professor of Ophthalmology
Faculty of Medicine
Cairo University

Signature

Prof. Dr. Ibrahim Taher

Assistant Professor of Ophthalmology
Cairo University

Signature



Cairo University

2003

B

17-04

**Experimental Study on Preparation of Deep
Sclerectomy Using Erbium: YAG Laser**

**Ph. D. Thesis Submitted to the National Institute
of Laser Enhanced Science**

Cairo University

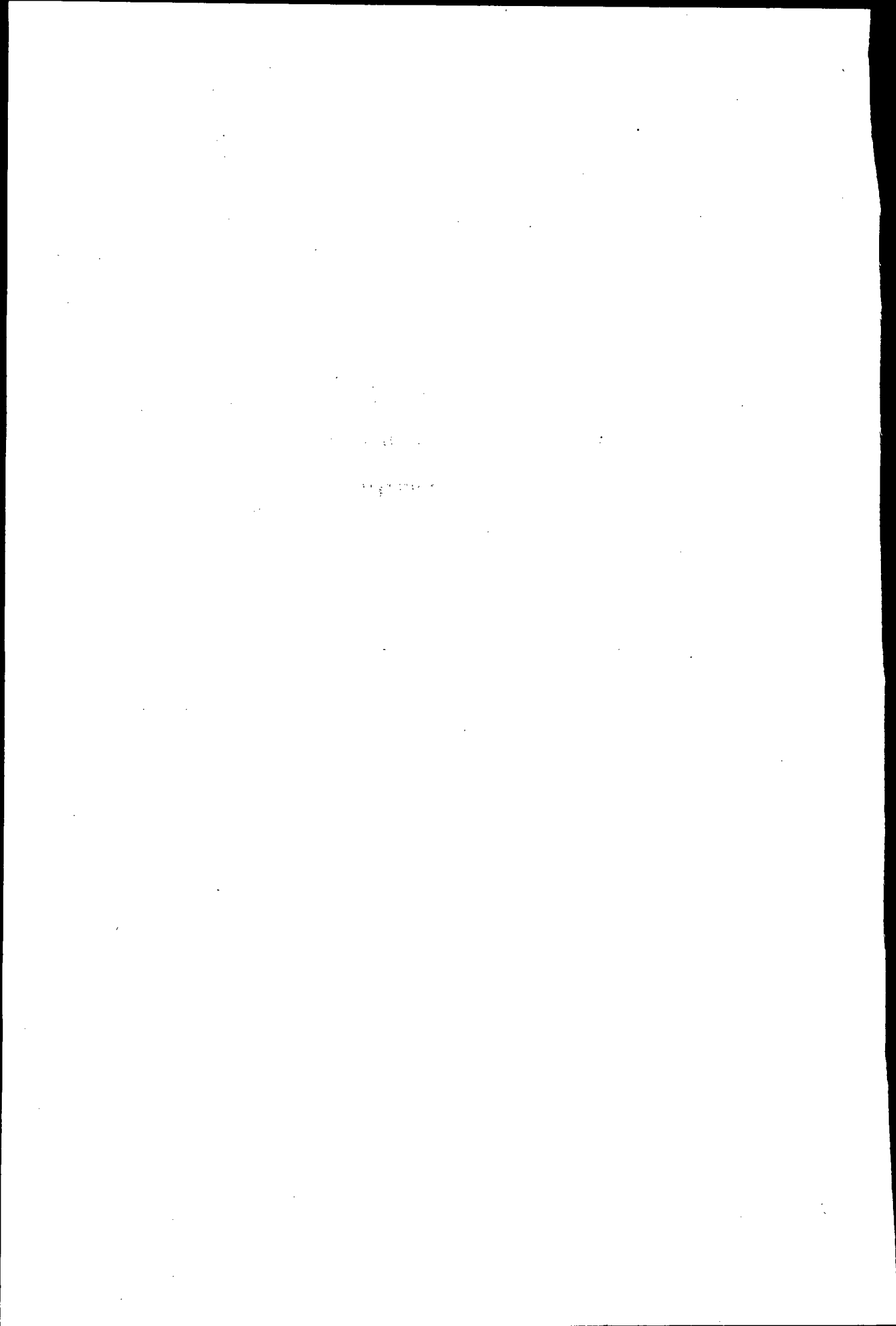
By

Dina Fouad Ghoneim

M.B.B.Ch., M.Sc.

Cairo University

2003



Supervisors

Prof. Dr. Yehia Badr

Professor of Physics and Dean of NILES

National Institute of Laser

Cairo University

Prof. Dr. Moustafa Bahgat

Professor of Ophthalmology

Faculty of Medicine

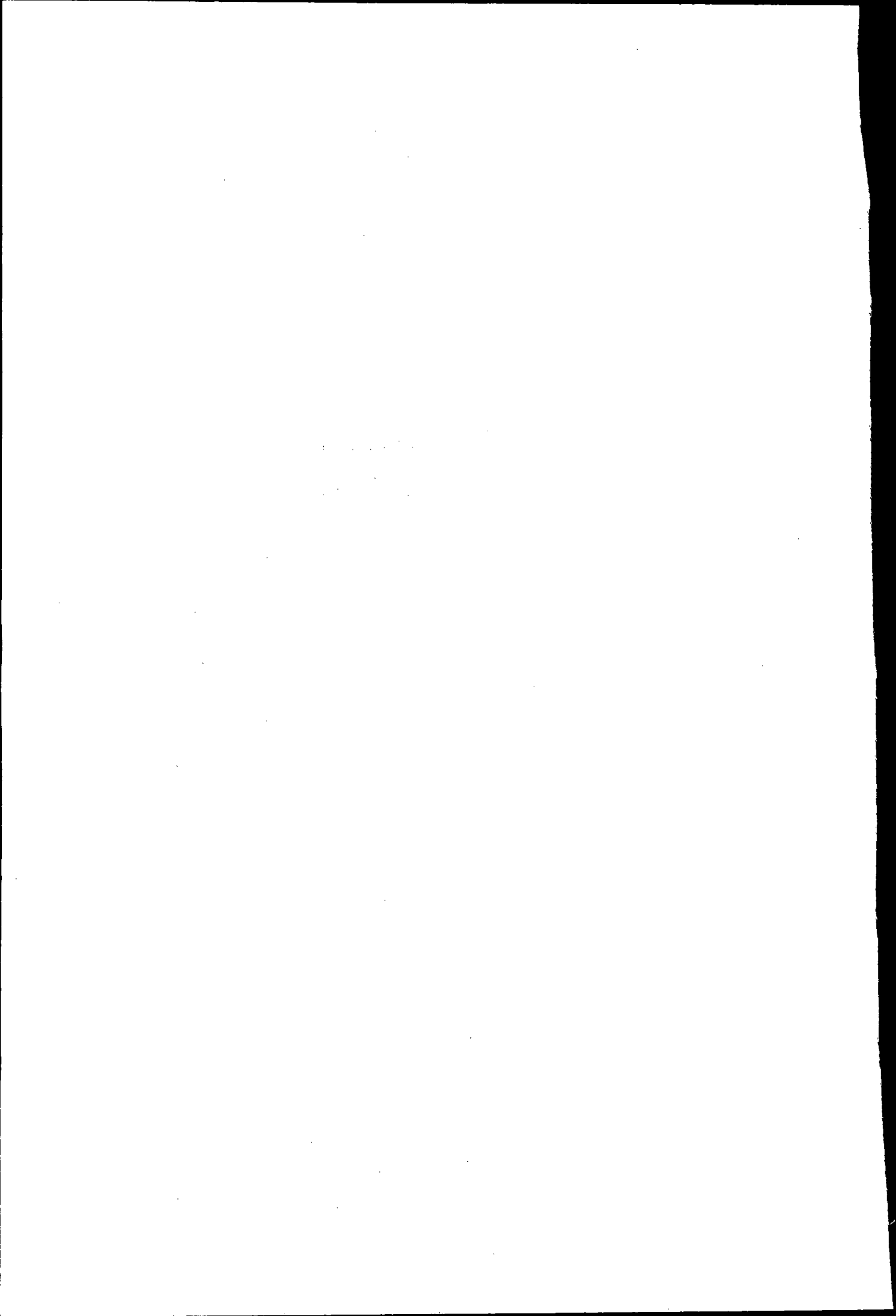
Cairo University

Prof. Dr. Ibrahim Taher

Assistant Professor of Ophthalmology

National Institute of Laser

Cairo University

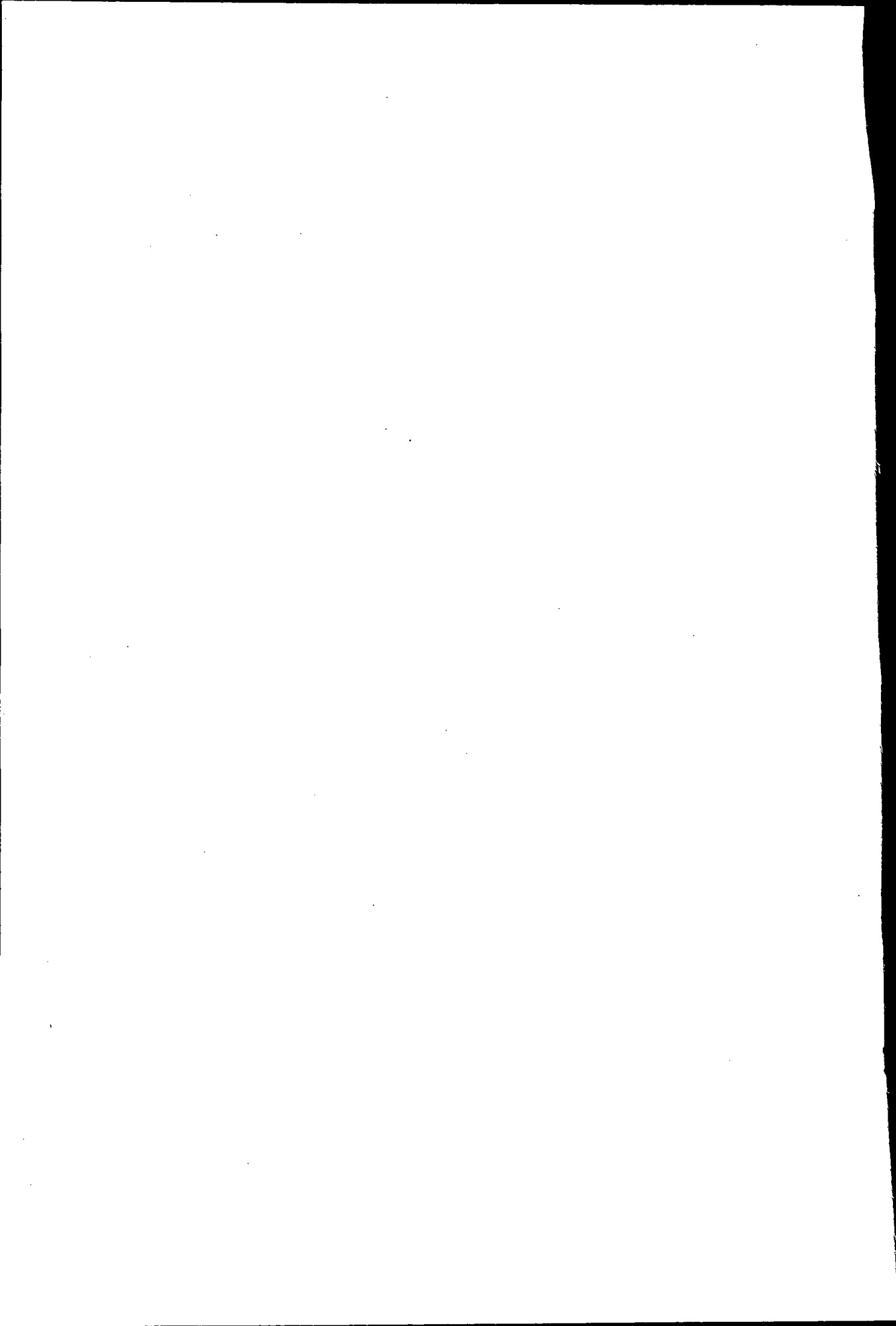


Acknowledgment

I would like to express my deep appreciation and gratitude to Prof. **Dr. Moustafa Bahgat**, Professor of Ophthalmology, Faculty of Medicine, Cairo University, for his continuous encouragement and valuable supervision of this work. His advice and suggestions which were so willingly given during the course of this work will never be forgotten.

It is also a pleasure to express my sincere gratitude to Prof. **Dr. Yehia Badr**, Professor of Physics and Dean of NILES, Cairo University, for his keen supervision, continuous encouragement and advice.

Also, I am deeply indebted to Prof. **Dr. Ibrahim Taher**, Assistant Professor of Ophthalmology, NILES, Cairo University, for his valuable instructions, guidance and cooperation, without his effort this study would have never been completed.



DEDICATION

*Dedicated to my husband
and family who suffered a lot
during the preparation of
this work.*

CONTENTS

Item	Page
Aim of Work	1
Introduction	2
Review of Literature	6
I- Outflow apparatus anatomy and surgical anatomy	7
A- Outflow apparatus anatomy	8
B- Surgical anatomy	27
II- Pathophysiology	30
A- Physiology of outflow system	31
B- Pathophysiology of primary open-angle glaucoma	37
III- Microsurgery of outflow channels.	42
A- Non-penetrating sclerectomy.	43
B- Indications and contraindications for non-penetrating sclerectomy surgery.	49
C- Complications of traditional filtering surgeries.	51
D- Comparison between trabeculectomy and non-penetrating procedures.	57
IV- General aspects of laser therapy	64
A- Laser tissue interactions	65
B- Erbium: YAG laser tissue interactions	71
C- Erbium: YAG applications in glaucoma.	72
D- Laser and trabecular surgery.	77
Materials and Methods	80
A- Materilas and Methods	81
1- Surgical and eye cup preparations.	81
2- Laser and delivery system.	81
3- Laser surgery.	86
4- Histological technique.	92
B- Evaluation of Methods	92

Item	Page
C- Statistical Analysis.	92
Results	95
A- Histopathological changes.	96
B- Statistical analysis.	106
1- Statistical analysis of laser parameters.	122
2- Statistical analysis of histopathological changes.	128
3- Statistical analysis of surgical procedure	145
Discussion	150
Summary and Conclusions	164
Appendix	167
References	170
Arabic Summary	