

DEDICATION

**To my family , teachers and
friends**

ACKNOWLEDGEMENTS

**I would like to express my gratitude to my supervisor
Dr . Bakri Mirghani for his guidance and suggestions as well
as encouregement during the preparation of this thesis .**

**My special thanks to Nahla and Maha who helped me
type this thesis .**

ABSTRACT

This dissertation consists of three parts

The first one discusses the types of linear integral equations and gives some examples of their solutions using the degenerate kernels, the difference kernels and Schmidt's theory.

The second part is devoted to applications to a problem of physical origin involving Green's function.

The last part deals with solutions of differential equations that lead to special functions by the method of integral equations.



هذه الرسالة تتكون من ثلاثة أجزاء.

الجزء الأول يناقش أنواع المعادلات التكاملية ويعطى بعض الأمثلة للحل

باستخدام النواة المنحلة ونواة الفرق ونظرية شمت .

الجزء الثاني مخصص للتطبيقات على مسائل فيزيائية الأصل تحتوى فى

دراستها على دالة قرين .

أما الجزء الأخير فيعالج حل المعادلات التفاضلية التي تفضي إلى الدوال

الخاصة عن طريق المعادلات التكاملية .

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