Dedication

To the spring that never stops giving…….,

to our Family.

To whose love flows in our veins……..,

to our brothers, sisters and friends.

To those who taught us letters of gold and words of jewel

of the almost and sweetest sentences in the whole

knowledge…….,

to our honored teachers.

Acknowledgment

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Abstract

In the first chapter we were out line the most basic material about matrices and vectors, we considered system of two differential equation in two unknown functions and more general, systems of n differential equation in n unknown functions, we restricted our attention to linear systems only and we considered various types of these systems.

In chapter two we proceeded introduce differential operators present on operator method of solving linear, we studied the fundamental theory and basic method of solution for standard type linear system in the special case of two equation in two unknown functions. Studied the fundamental theory and basic method of solution for the corresponding standard type of linear system in the general case of n equations in n unknown functions. In chapter three we considered some applications this method.

الخـلاصة

في الباب الأول قمنا بإستخلاص اهم ما يتعلق بالمصفوفات و المتجهات . اعتبرنا نظام من معادلتين تفاضليتين في مجهولين ، عممنا ذلك لنظام من n من المعادلات التفاضلية في n من المجاهيل . و لقد اهتممنا فقط بالانظمة الخطية مع انواع مختلفة منها . في الباب الثاني قدمنا المؤثر التفاضلي و طريقة المؤثر لحل النظام الخطي ، درسنا النظرية الاساسية و كذلك الطريقة الاساسية لحل النظام الخطي من النوع الاساسي في الحالة الخاصة من معادلتين تفاضليتين في مجهولين ثم بعد ذلك الحالة العامة للنظام الخطي من n من المعادلات التفاضلية في n من المجاهيل ، في الباب الثالث قدمنا تطبيقات في الميكانيكا و حقول آخرى.

The Contents

Introduction

We are study the linear differential equation in the system form and we give some theorems which useful in the existence and uniqueness of solution and we give some applications in Electricity and other fields.