ABSTRACT

SOLUTION OF VOLTERRA INTEGRAL EQUATIONS BY METHOD OF SUCCESSIVE APPROXIMATIONS

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Different type of integral equations and their solutions are considered in this thesis. These integral equations were solved by the successive approximations.

This thesis consists of four chapters.

In the first chapter, history of integral equations are given and which were studied.

In the second chapter, the basic concepts are given which are necessary for the subject Volterra and Fredholm integral equations were solved by the successive approximations method.

In the third chapter, initial value problems for hyperbolic equations with constant confficients in R^1, R^2, R^3 are reducible to D'alambert, Poisson and Krichhoff's integral equations were solved by the successive approximations. The existence and uniqueness theorems for the solution of an integral equations.

In the fourth chapter wave equation with the funcion velocity are studied. The existence and uniquenses theorems for the solution of an integral equations.

The fifth chapter involves the conclusion of study.

Key words: Volterra Equations, Fredholm Equations, Successive approximations method, Weierstrass theorem.