The present thesis entitled "Certain Integral Equations and Problems of Elasticity" is an outcome of the research work carried out by me under the kind supervision of Dr. Vinod Kumar, Reader, Department of Mathematics, Christ Church College, Kanpur. This work is now submitted for the award of Ph.D. degree of C.S.J.M. University, Kanpur.

The First Chapter is introductory and gives the definitions and developments of the subject matter. A summary of the subject grown is also mentioned. The problems containing applications to elasticity have also been given at the end.

In the Second Chapter, we have given solution of simultaneous dual integral equations involving G-functions of two variables. By using operators of fractional integration solution has been completed.

In the Third Chapter, the solution of some triple integral equations involving Legendre functions of imaginary arguments have been found. Some more general equations have also been considered.


In Chapter Five and Six, we have considered two problems from the theory of elasticity where applications of integral equations is possible. These results are more general than the works of earlier authors.

References are included at the end of the thesis.

Dated: 10/12/2002

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