

PREFACE

*The present thesis entitled **Certain studies in the summability theory and approximation** is outcome of my researches which I have been doing since January '2001 in Department of Mathematics S.G.R.P.G. College, Dobhi, Jaunpur in the Summability theory and approximation under the esteemed supervision of Dr. K. N. Singh Reader, Department of Mathematics S.G.R.P.G. College, Dobhi, Jaunpur.*

In all there are ten chapters in the present thesis. In that chapter I which is Introductory, I have made an attempt to make a brief account of the existing results which have inter-connection with my investigations in the subsequent chapters. In chapter II, I have obtained a result for $K^{\lambda, \mu, \nu}$ Summability of triple Fourier series while chapter III is the study of (N, p, q) Summability of Fourier series and its conjugate series. Chapter IV is based on almost (N, p, q) Summability of derived Fourier series. Chapter V and VI contains uniform matrix Summability of Fourier series and uniform triangular matrix Summability of Legendre series. Chapter VII is on matrix Cesaro Summability of Fourier co-efficient. In chapter VIII I have discussed $(C, 1)$ $(E, 1)$ Summability of a Fourier series and its conjugate series.

Chapter IX contains the Borel Summability of Legendre series. In the last chapter, I have obtained a theorem on the degree of approximation of the conjugate of the functions belonging to the class $lip(\alpha, p)$ by means of a conjugate series. At the end I have given a complete bibliography of the work to which references have been made in this thesis.

By for one chapter of this thesis has been communicated in the form of research papers for publication in both Foreign and Indian Mathematical Journals. One of them has been already published.

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