

PREFACE

This thesis presents the outcomes of my researches on " A STUDY OF DIFFERENT SUMMABILITY METHODS OF AN INFINITE SERIES ", carried out at the Maharaja Sayajirao University of Baroda, since September 1996, under the supervision of Prof. N.V.Patel, Head, Department of Mathematics, Faculty of Science, The M.S.University of Baroda.

This thesis consists of six chapters. Chapter-I is an introduction to the thesis where in I have tried to include various notations, definitions and basic results which are used in later chapters.

Chapter-II is devoted to the study of $|C,1,\gamma|_k$ and $|\overline{N},p_n,\gamma|_k$ summability of an infinite series wherein we obtain results generalizing results of H.Bor, Ö.Cakar and C.Orhan. Besides this we obtain results on $X-|\overline{N},p_n|_k$ summability generalizing result due to G.Sunochi and L.S.Bosenquent. Parts of this chapter are published in [54 ,55].

In chapter-III, we obtain some results on $|\overline{N},p_n,\phi_n|_k$ summability under weaker hypothesis which better the result of H.Bor [13,18]. All the results in this chapter are published in [57,58].

Chapter-IV includes an extension of the notion of $|\overline{N},p_n,\gamma|_k$ summability and obtain generalization of results due to Khan [32] and H.Bor [15]. Result of this chapter is published in [56].

We discuss $Y-\left[\overline{N}, p_n\right]_k$ summability of Fourier series in chapter-V. In chapter-VI, we study the Sine and Cosine series with quasimonotone coefficients.

As far as possible, I have given a complete bibliography of the books and research papers to which references has been made in the present thesis. I have received reprints of some of my published papers, which I have attached at the end of the thesis.

I wish to express my deep sense of gratitude to Prof. N.V.Patel for his valuable help, keen interest and encouragement, which I continuously received during the course of my investigations. It would not have been possible for me to complete this work without his support.

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