

P R E F A C E

The material of the present thesis is based on the researches that I have been carrying out since December, 2010 at The Maharaja Sayajirao University of Baroda, Vadodara, on “PROPERTIES OF FUNCTIONS OF GENERALIZED BOUNDED VARIATIONS” under the guidance and supervision of Professor R. G. Vyas, Professor of Mathematics, Department of Mathematics, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara – 390002.

The present thesis consists of five chapters. Chapter 1 provides brief introduction to the subject area of the thesis together with some recent development in the field. The content of Chapter 2 concerns the study of general properties of classes of one variable as well as N –variables functions of generalized bounded variations. These results are published in the form of a paper in *Bulletin of Mathematical Analysis and Applications*, **4**, (1) (2012), 181–189. Chapter 3 deals with the study of general properties of two variables functions of p –bounded variation in the mean. Its main results are published in the form of a paper in *Journal of the Indian Mathematical Society*, **81**, (1–2) (2014), 61–66. The content of Chapter 4 concerns the study of Fourier coefficients properties of N –variables functions of generalized bounded variations. Some of first half of these results are published in the form of a paper in *Analysis in Theory and Applications*, **29**, (1) (2013), 27–36; while some results are accepted for publication in *Mathematical Inequalities and Applications*. The results of second half of this chapter are published in the form of a paper in *Mathematical Notes*, **94**, (1) (2013), 71–81; Russian transl., *Matematicheskie Zametki*, **94**, (1) (2013), 81–93. Chapter 5 deals with the estimation of the order of magnitude of Walsh–Fourier coefficients of one variable as well as N –variables functions of generalized bounded variations. Among all these results, the result for a function of one variable is published in the form of a paper in *Bulletin of Mathematical Analysis and Applications*, **4**, (2) (2012), 116–119; while most of the results for functions of N –variables are published in the form of a paper in *Journal of the Indian Mathematical Society*, **79**, (1–4) (2012), 219–228.