PREFACE

The present work is outcome of the researches carried out by me in the field of Special Functions of Mathematical Physics and their applications in Combinatorial Analysis at Bundelkhand College, Jhansi.

I got this rare opportunity of working under the able guidance of Dr. P.N. Shrivastava, M.Sc., Ph.D. Lecturer in the department of Mathematics, Bundelkhand College, Jhansi.

I came in contact with Dr. P.N. Shrivastava in 1976. His unparalled knowledge of Mathematical literature and exceptional diligence impressed me very much and motivated me throughout.

I acknowledge my deep debt of gratitude to Dr. P.N. Shrivastava under whose able guidance and enduring pain this work was planned and carried out.

I am equally indebted to Rev. Fr. A. Semmat and Rev. Fr. Augustine, Christ the King College, Jhansi for their unremitting zeal they showed in the progress of this work.

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This thesis consists of twelve chapters each divided into several sections (progressively numbered 1.1, 1.2,...). The formulae are numbered progressively within each section. For instance (4.3,8) denotes the 8th formula in 3rd. article of 4th chapter. References are given at the end of each chapter in alphabetical order. After the preface a list of publications of the author is given.

Dated Sept. 20, 1981.

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A list of publications of Author's work

1. Operational relations related to a function defined by a generalized Rodrigues formula: Publications De l'Institut Mathematique, Nouvelle series, tome 24 (38), 1978, pp. 151-162.

2. Further study of a generalized polynomial system: A paper presented to the National Academy of Sciences, India, Golden jubilee session held at Allahabad from October 23 to 27, 1980 (Co-author P.N. Shrivastava).

3. A note on generalized Hermite polynomials (Under communication).

4. A study of Rodrigues type formula (Under communication).

5. Generalized Rodrigues formula for classical polynomials and related operational relations (Under communication).

6. A generalized Rodrigues type formula for classical polynomials (Under communication).

7. Extended Rodrigues formula for Jacobi polynomials.

8. A polynomial system associated with Humbert polynomials.


10. On generalized Bernoulli numbers and polynomials.

11. On generalized Eulerian numbers and polynomials.