

Contents

Preface

vii

CHAPTER 1	
Boundary Values of Holomorphic Functions and	
Analytic Functionals	1
1.1. The Hardy Spaces in the Disk	2
1.2. Hyperfunctions	35
1.3. Analytic Functionals and Entire Functions of Exponential Type	51
1.4. Vade Mecum of Functional Analysis	77
1.5. Convolution of Analytic Functionals	85
1.6. Analytic Functionals on the Unit Circle	94
CHAPTER 2	
Interpolation and the Algebras A_p	109
2.1. The Algebras A_p	109
2.2. Interpolation with Growth Conditions	118
2.3. Ideal Theory in A_p	136
2.4. Dense Ideals in $A_p(\Omega)$	160
2.5. Local Ideals and Conductor Ideals in A_p	166
2.6. The Algebra A_ρ of Entire Functions of Order at Most ρ	170
CHAPTER 3	
Exponential Polynomials	198
3.1. The Ring of Exponential Polynomials	198
3.2. Distributions of Zeros of an Exponential Polynomial	217
CHAPTER 4	
Integral Valued Entire Functions	260
4.1. The G -Transform	260
4.2. Integral Valued Entire Functions	278

ix

Contents

x

CHAPTER 5	
Summation Methods	299
5.1. Borel and Mittag–Leffler Summation Methods	299
5.2. The Lindelöf Indicator Function	316
5.3. The Fourier–Borel Transform of Order ρ of Analytic Functionals	326
5.4. Analytic Functionals with Noncompact Carrier	333
CHAPTER 6	
Harmonic Analysis	353
6.1. Convolution Equations in \mathbb{R}	354
6.2. Convolution Equations in \mathbb{C}	385
6.3. The Equation $f(z+1) - f(z) = g(z)$	405
6.4. Differential Operators of Infinite Order	419
6.5. Deconvolution	458
References	471
Notation	479
Index	481