

Contents

Preface	<i>page v</i>
Chapter 1. The Real Variable	1
2. Scalars and Vectors	57
3. Tensors	86
4. Matrices	114
5. Multiple Integrals	171
6. Potential Theory	199
7. Operational Methods	228
8. Physical Applications of the Operational Method	244
9. Numerical Methods	261
10. Calculus of Variations	314
11. Functions of a Complex Variable	333
12. Contour Integration and Bromwich's Integral	375
13. Conformal Representation	409
14. Fourier's Theorem	429
15. The Factorial and Related Functions	462
16. Solution of Linear Differential Equations of the Second Order	474
17. Asymptotic Expansions	498
18. The Equations of Potential, Waves, and Heat Conduction	529
19. Waves in One Dimension and Waves with Spherical Symmetry	546
20. Conduction of Heat in One and Three Dimensions	563
21. Bessel Functions	574
22. Applications of Bessel Functions	595
23. The Confluent Hypergeometric Function	606
24. Legendre Functions and Associated Functions	628
25. Elliptic Functions	667
Notes	691
Appendix on Notation	706
Index	711