

# Contents

*Preface* v

1 Introduction 1  
*M. Khalifa and H. Anis*

## Part I

2 Electric Fields 9  
*M. Abdel-Salam*

3 Ionization and Deionization Processes in Gases 81  
*M. Abdel-Salam*

4 Electrical Breakdown of Gases 115  
*M. Abdel-Salam*

5 The Corona Discharge 149  
*M. Khalifa and M. Abdel-Salam*

6 The Arc Discharge 185  
*M. Khalifa and M. Abdel-Salam*

7 Insulating Liquids 207  
*M. Khalifa and H. Anis*

8 Solid Insulating Materials 235  
*M. Khalifa and H. Anis*

## Part II

9 High-Voltage Busbars 267  
*A. El-Morshedy*