

Table of Contents

Preface *vii*

Contributors *viii*

Introduction *x*

- **Chapter 1** A Comparison of Metals, Ceramics, and Polymers 1
- **Chapter 2** Physical Properties and Biocompatibility 12
- **Chapter 3** Color and Appearance 25
- **Chapter 4** Gypsum Products 38
- **Chapter 5** Surface Phenomena and Adhesion to Tooth Structure 62
- **Chapter 6** Polymers and Polymerization 75
- **Chapter 7** Impression Materials 91
- **Chapter 8** Polymeric Restorative Materials 114
- **Chapter 9** Dental Cements 134
- **Chapter 10** Abrasion, Polishing, and Bleaching 160
- **Chapter 11** Structure and Properties of Metals and Alloys 168

- **Chapter 12** Dental Amalgams 179
 - **Chapter 13** Precious Metal Casting Alloys 195
 - **Chapter 14** Alloys for Porcelain-Fused-to-Metal Restorations 202
 - **Chapter 15** Dental Porcelain 212
 - **Chapter 16** Base Metal Casting Alloys 230
 - **Chapter 17** Casting 243
 - **Chapter 18** Soldering, Welding, and Electroplating 253
 - **Chapter 19** High-Temperature Investments 262
 - **Chapter 20** Waxes 272
 - **Chapter 21** Orthodontic Wires 276
 - **Chapter 22** Endodontic Materials 293
 - **Chapter 23** Implant and Bone Augmentation Materials 300
- Appendix A** Tabulated Values of Physical and Mechanical Properties 313
- Appendix B** Biocompatibility Test 395
- Appendix C** Periodic Chart of the Elements 397
- Appendix D** Units and Conversion Factors 398
- Appendix E** Answers to Study Questions 399
- Index** 411