- **1 Introduction** (p. 1)
- 2 Fundamental Biological Requirements of a Biomaterial (p. 3)
- 3 Cell-Material Interactions: Fundamental Design Issues for Tissue Engineering and Clinical Considerations (p. 15)
- 4 Protein Adsorption at the Biomaterial/Tissue Interface (p. 47)
- **5 In Vitro Testing of Biomaterials** (p. 63)
- 6 Considerations for the In Vivo Testing of Biomaterials (p. 81)
- 7 Fibrin and Its Applications (p. 105)
- 8 Proteins and Amino Acid-Derived Polymers (p. 121)
- 9 The Poly([alpha]-Esters) (p. 139)
- **10 Polyurethanes** (p. 161)
- 11 Polymers Derived from L-Tyrosine (p. 185)
- 12 Poly(Propylene Fumarate) (p. 205)
- 13 Hyaluronan as a Biomaterial (p. 219)
- 14 Chitosan (p. 249)
- **15 Alginate** (p. 261)
- **16 Polyphosphazenes** (p. 273)
- **17 Metallic Biomaterials** (p. 291)
- 18 Ceramic Biomaterials (p. 311)
- **19** Biomaterials for Drug and Gene Delivery (p. 341)
- 20 Orthopedic Prostheses and Joint Implants (p. 369)
- 21 Dental Implants (p. 395)
- 22 Tissue Engineering of Bone (p. 417)
- 23 Tissue Engineering Nervous System (p. 441)
- 24 Cardiovascular Tissue Engineering (p. 461)
- 25 Tissue Engineering Skin (p. 485)
- 26 Tissue Engineering of Ligaments (p. 499)
- 27 Tissue Engineering of Articular Cartilage (p. 525)
- Index (p. 539)